
Avoiding Unwanted Pregnancy and Sexually Transmitted Infections: A Rural Malawi District Study

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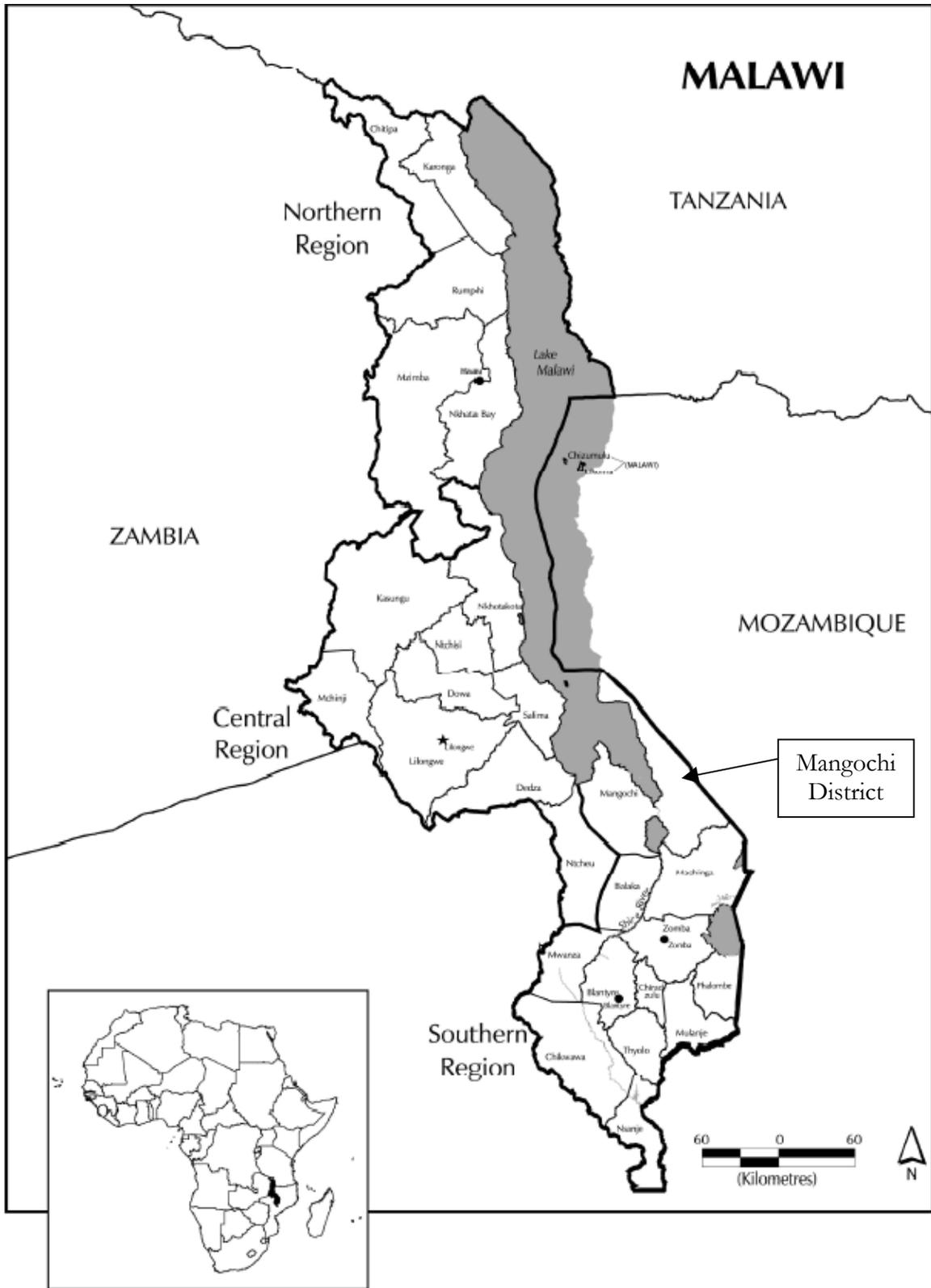
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The study team expresses its gratitude to the communities in Mangochi district that allowed this study to be conducted locally, which often placed demands on the residents' patience and tolerance. In return, the team hopes that the communities will experience improved health benefits, both as a result of personal protective behaviors and better service availability from public and private health providers.

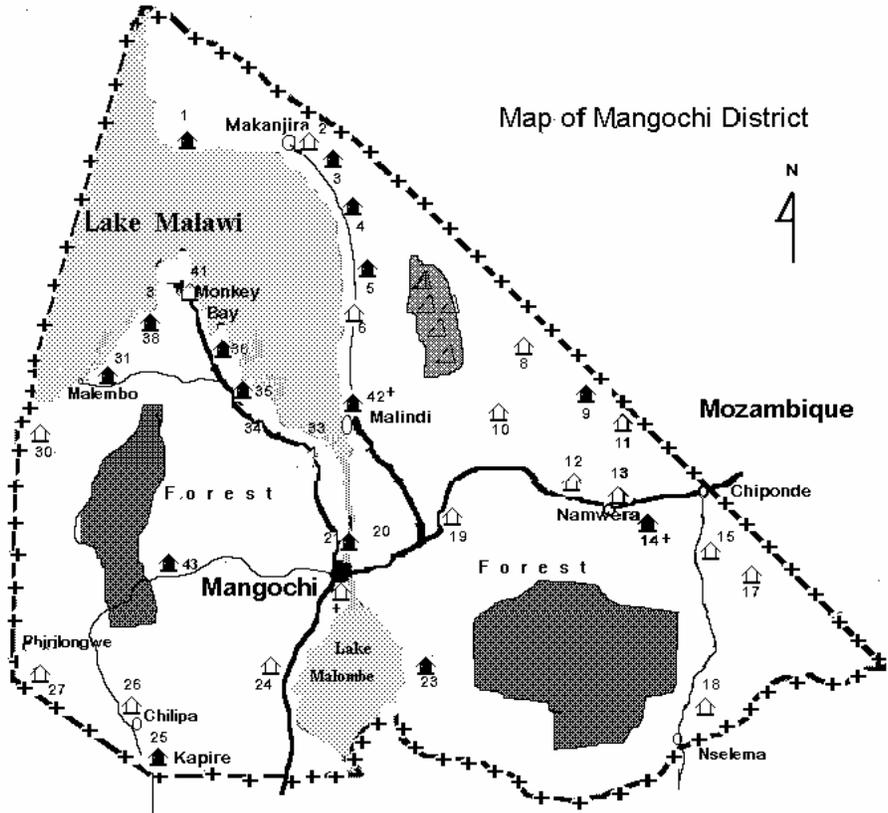
The collaborating team for this study included researchers and staff from the University of Malawi's Center for Social Research, Ministry of Health and Population, Save the Children Federation USA, and MEASURE Evaluation at the University of North Carolina at Chapel Hill (UNC).

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Map of Mangochi District



KEY		(attached: list of names)
	District Boundary	CHAM Clinic/Health Cent.
	Main Road	Government Health Cent.
	Other Roads	Water (Lake)
	District Headquarters	
	Important Town	

- | | | | | | |
|--------------|-----------------|--------------------|--------------|-----------------|---------------|
| 1 Lulanga | 7 Sable Clinic | 14 Sister Martha H | 21 Mpondasi | 27 Phiri-longwe | 38 Nankwali |
| 2 Mankanjira | 10 Katuli | 15 Nancholi | 23 Mase | 30 Namkumba | 41 Monkey Bay |
| 3 Lugola | 11 Chiumbangame | 17 Lumeta | 24 Kukalanga | 31 Mlembo | 42 Malindi |
| 4 Namalaka | 12 Jalasi | 18 Nkumba | 25 Kapire | 35 Koche | 43 Katema |
| 6 Lungwena | 13 Namwera | 19 Chikomwe | 26 Chilipa | 36 Mkope | |

Executive Summary

The Pregnancy and Sexually Transmitted Infection (STI) Avoidance Study was conducted in rural Mangochi District, Malawi, between May 2000 and June 2002. The purpose of the study was to assess the levels of perceived risk for unwanted pregnancy and STIs, and their relationship to sexual activity and avoidance behaviors. The study draws on three waves of data collected on a sample of district men and women in 2000, 2001, and 2003. The collaborating team for the study involved researchers and staff from the University of Malawi's Center for Social Research, Ministry of Health and Population, Save the Children Federation USA, and MEASURE Evaluation at the University of North Carolina at Chapel Hill.

The study's utility for evaluation methodology centers on its application of a longitudinal design, inclusion of both male and female respondents, collection of biospecimens to measure STIs and pregnancy for confirmation of self-reporting, assessment of sources of information, and assessment of preference for types of service providers in order to address community needs jointly for family planning, STI, and HIV care. The degree of sexual and reproductive health (SRH) enjoyed by women and men increasingly depends on safe conditions for sexual activity, conception, pregnancy, and delivery. Because many of these decisions occur between a woman and a man as partners, it is important to evaluate SRH from the perspective of both genders. From this study's experience, programmatic approaches to health communication and service delivery should differ by gender to be effective and approaches should be

specifically designed for couples and partners.

The first section of this report focuses on the main phase of data collection, involving two rounds of interviews that occurred between June 2000 and February 2001. A probability sample of 1,020 rural women aged 15 to 34 and 742 men aged 20 to 44 was drawn from 1,390 households in the district. Respondents consenting to participate were interviewed weekly for six weeks (Wave 1) and after a seven-month interval were interviewed weekly again, this time for two weeks (Wave 2). Baseline information on fertility preferences, SRH knowledge, perceptions of risk for unwanted pregnancy and STI were obtained. During the third week of the first round, urine was collected from consenting respondents (72.5%) and tested for gonorrhea and chlamydia, with female urines also tested for pregnancy.

The second section of the report focuses on the third wave (Wave 3) of data collection that occurred in March 2002 and June 2002.

The main findings from Wave 1 and Wave 2 follow:

Fertility and Pregnancy Avoidance

- Fertility demand remained high, with 72% of women and 49% of men wanting another child.
- Reported ideal family size is four children.
- Very little knowledge of the fertility cycle existed among women and men in the sample.
- Twenty percent of women and 18% of men were currently using

some form of contraception. The main methods reported were the injectable and periodic abstinence. Reported condom use was low.

STI and HIV/AIDS Avoidance

- Regarding ways to avoid STIs, relatives were the most common source of first knowledge for both men and women, followed by friends of the same sex.
- Relatives were an especially prominent source for men's first knowledge of HIV (58%, compared to 31% for women). The media, however, was also an important source of STI information for men (20%), as were health workers for women (17%).
- Difficulty walking and weight loss were reported as the main symptoms for STIs, with men reporting the former and women the latter more frequently.
- Half of the women and half of the men did not perceive themselves at risk for HIV/AIDS; only 12% of women and 9% of men report being at great risk.
- Most knew that abstinence (60% of women and 46% of men) and condom use (71% of women and 51% of men) are means to avoid HIV infection, although the behavioral data suggest little use of either.
- A large majority of men (87%) and women (78%) knew about mother-to-child transmission of HIV/AIDS; 93% of women and 80% of men were aware the virus

can be transmitted through breastfeeding.

Dual-Risk/Dual-Protection

- As reported earlier, 20% of women reported that they were currently using contraception.
- Among women, 16% wanted no more children and 25% saw themselves at moderate or great risk of HIV infection.
- Among currently pregnant women, 31% report their pregnancy to be either mistimed (23%) or unwanted (8%).
- Among the 129 pregnant women, six women tested positive for an STI (gonorrhea or chlamydia).
- The opportunity to screen family planning clients for STIs may be a missed one:
 - a. Among those reporting current STI symptoms, 18% of women and 9% of men were using family planning.
 - b. Among those who tested positive for gonorrhea, 11% of women and 24% of men were using family planning.
 - c. Among those who tested positive for Chlamydia, 11% of women and 14% of men were using family planning.

Pregnancy and STI Status

- Sixty-eight percent of male and 76% of female respondents consented to provide a urine specimen for testing of

gonorrhea or chlamydia, or for pregnancy among women.

- Male and female respondents were more likely to provide a specimen if they were educated and, for females, of higher parity. Pregnant women were less likely to consent to providing a specimen.
- Among women testing positive for pregnancy, 41% reported themselves to be pregnant.
- Eight percent of women and 4% of men reported having STI symptoms currently.
- Five percent of women and 6.1% of men test positive for Chlamydia; and 3.5% of women and 6.1% of men tested positive for gonorrhea.

Family Planning, STI, and HIV/AIDS Service Preferences

- The perceived role of the health sector in informing individuals varied in importance among women and men by whether the need was for family planning (FP), STI, or HIV/AIDS services.
- Fifty-nine percent of women report a health worker as their source of first knowledge about FP compared to 18% of men. For the latter, 54% report the media or dramas as being their first source of information.
- Thirty-one percent and 26% of women report relatives and same-sex friends, respectively, as their first source of STI information, compared to 39% and 28%, respectively, for men.

Media remains important for another 20% of men.

- Women and men first learn about HIV from the media (31% and 58%, respectively), with health workers being the next most important source for women (26%) and relative or friend for men (13% and 14% each). Teachers appear as a first source for FP, STI, and HIV for 7% to 8% of males aged 20-24 and for 5% to 11% of females aged 15-19.
- A high proportion of non-contracepting women and men intend to use FP in the next six months. Among those not planning to use FP, being unmarried or wanting children are the main reasons given.
- Most women (68%) and men (58%) cite no barriers to obtaining STI treatment. However, if these exist, embarrassment (12% for women and 15% for men) and access (9% for women and 14% for men) are the main reasons given.
- Similarly, 54% of women and 55% of men cite no barriers to obtaining HIV testing. For the remainder, 18% of women and 14% of men cite fear as a reason for not being tested. Only 2% of women cite embarrassment as a barrier compared to 7% of men, and 8% of women and men see no need to be tested. Access, on the other hand, is cited by 4% of women and 10% of men.
- The preferred sources of information and sites of services for FP, STI, and HIV care vary

by type of need and gender. The health sector again figures importantly as a preferred source for FP information among women but not men. Men tend to prefer clinical over community health workers, especially for STI information.

- The government hospital is favored by 60% of women compared to 34% of men for FP services, while health workers are the preferred source for 58% of men and 30% of women. For STI services and HIV testing, men overwhelmingly favor going to a hospital. Women are more willing to seek such care from a health center.

Implications

Given the reported results, the foremost implication is to address sexual and reproductive health care as the consequence of actions taken by women and men, either as sexual partners or married couples. Women tend to view themselves as having responsibility for healthy reproduction more frequently than men. Men, on the other hand, are more aware of STI and HIV risk and available information than women. Both prefer different sources for accessing FP and STI/HIV information. In addition, when women and men are clinic clients, this contact with the health system offers an opportunity for SRH risk screening. A nontrivial number of contraceptive users and pregnant women tested positive for

gonorrhea or chlamydia, infections that might have been prevented with screening at the time of care.

Since both conception and the infections of interest are sexually transmitted, ensuring sexual activity occurs under conditions preventing unwanted outcomes is one of the most critical public health concerns to be addressed today. District, if not national, health programs might wish to consider designing health communication and service provision approaches that can jointly meet the needs of sexually active men and women. Although district hospitals and clinic staff are the preferred providers, they are difficult to access for most rural residents in the district. Resource constraints are severe in Malawi, as well as Mangochi, indicating that educating communities about preventive care and personally protective health behaviors is essential.

The study data should be interpreted carefully, keeping in mind the sample attrition, selective coverage through urine-based tests, and individual sensitivity to reporting on the types of questions asked. Most of the data reported here relate to the first and second weeks' surveys when attrition was lower than in subsequent weeks. To assess the relative influence of risk perceptions on avoidance behaviors better, more advanced statistical analyses are warranted. Further analyses with the study data are planned.

Chapter 1: Introduction

Purpose of Study

The purpose of this study is to assess the levels of perceived risks for unwanted pregnancy and sexually transmitted infections (STIs) and their relationship to sexual activity and avoidance behaviors. The study draws on data collected through a community-based sample of rural women and men. The main research questions addressed are:

- What levels of perception of risk and management of unintended pregnancy and sexually transmitted infection exist in this rural population?
- How do individual perceptions and avoidance behaviors vary by gender, as well as other background factors?
- Do individual risk perceptions influence sexual activity and other behaviors that help to avoid unwanted pregnancy and STIs?
- What practical lessons may be learned from inclusion of biological specimens for testing for STIs and HIV in the community-based survey?
- How closely correlated are self-reported measures of pregnancy and STI symptoms with clinical measures, and are there differences by respondent characteristic?

Some of these questions are examined in the context of the survey results reported here, but other questions require further analyses and will be covered in future reports.

The study included a longitudinal design (following up a rural cohort sample of women and men over two years), collection and testing of biological specimens to measure prevalence of STIs, and subsequently HIV, assessment of understanding of reproductive health service preferences and the potential for integration, and efforts to ensure dissemination of the findings at the district level, where the information might be helpful to service providers, community leaders, and other researchers. While neither biological specimen collection nor longitudinal designs are a new method of evaluation, the first provided the means for confirming self-reported pregnancy or infection status and for comparing status against perceived risk. The second provided for documentation and assessment of changes between waves.

Collaboration

The Pregnancy and STI Avoidance Study, with its complex character, including drawing district-level samples of women and men to follow up over time in order to measure behavioral and biological health, demanded involvement of a large team of researchers from Malawian and non-Malawian organizations. The Study involved collaboration among researchers from four organizations – the Center for Social Research, University of Malawi at Zomba, Save the Children Federation USA (Malawi), the Ministry of Health and Population's Lilongwe Central Hospital (LCH), and the University of North Carolina (UNC) at Chapel Hill. Financial support for the study was received from the USAID-funded MEASURE Evaluation Project administered through the Carolina Population Center, University of North

Carolina at Chapel Hill. The principal investigators from these organizations are Thomas Bisika, Joseph deGraft-Johnson, Peter Kazembe, and Amy Tsui.

Approval to conduct the study in Malawi with USAID funding was received from the USAID mission in Lilongwe. Technical support for STI testing was received from the UNC Center for Infectious Disease and testing was implemented by the STD unit at LCH. District support was received from the District Health Office and hospital.

Organization of Report

The first section of this report summarizes Phase I (Waves 1 and 2), with much of the reported data and analysis focusing on Wave 1 data. The analysis of Wave 3 is reported in Chapters 10-12. Lists of Waves 1, 2, and 3 supervisors and research assistants (RAs) are included in Appendix A. A list of measurement instruments is included in Appendix B. Appendix C provides the focus group discussion guides used in Wave 3.

Chapter 2: Significance

Dual Risk

Sexual activity between women and men carries with it the risk for unwanted pregnancy and STIs. Frequent coital activity and with numerous partners in the absence of protective measures increases the likelihood of conception and acquisition of an STI. Protection against the dual risks of unwanted pregnancy and sexually transmitted infection, especially HIV, has become a global public health concern with important health implications for individuals, families, communities, and societies. Biomedical and pharmacologic research to develop and clinical trials to test topical microbicides that partners can apply during sexual intercourse are still several years from being widely available to the public

In Malawi, an estimated 37% of currently married women express a desire to limit childbearing and another 37% seek to delay their next pregnancy, according to the Demographic and Health Survey (DHS) of 2000 (National Statistical Office and ORC Macro, 2001). Thus nearly three fourths of currently married women in the country seek to manage the timing and number of pregnancies. Among currently married men, 37% also desire to limit childbearing. At the same time, only 51% of contraceptive demand, either for spacing or limiting reasons, is satisfied among currently married women. About 26% of married and sexually active unmarried women are practicing contraception with a modern method. Modern contraceptive use is at nearly the same level for married men (27%) and slightly higher for men who are sexually active and unmarried (34%). Overall, two-fifths of births in the period 1995-2000 were

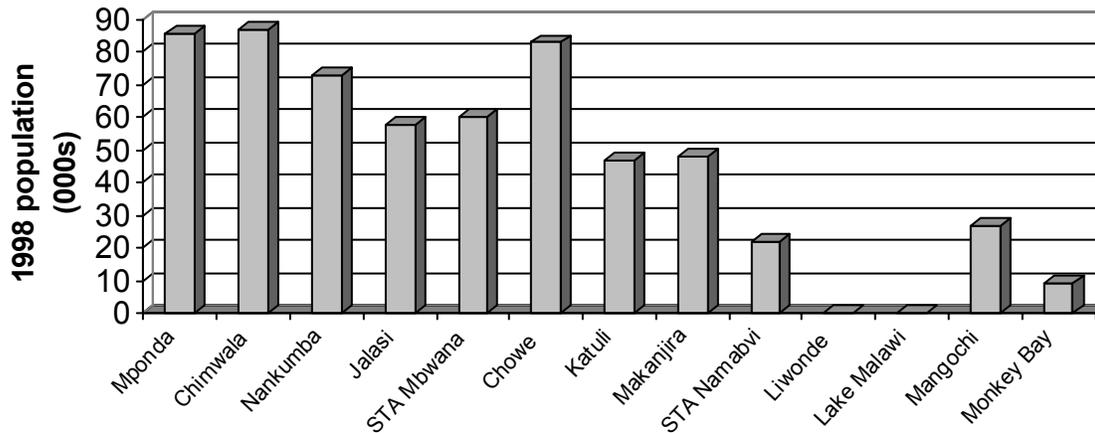
reported as unplanned: 18% were mistimed and 22% unwanted. These indicators point to a significant need to enable sexually active individuals to achieve their reproductive goals and health objectives.

Unprotected sex can introduce infections, such as syphilis, gonorrhea, chlamydia, and HIV, the virus that causes AIDS. Infections may be noticeable through symptoms, more often by men than women, but often go undetected by affected individuals. In the 2000 Malawi DHS, 11% of sexually experienced women and 8% of sexually experienced men reported either having an STI, genital discharge or genital sore or ulcer. STIs potentiate HIV transmission and compromise the quality of pregnancy outcomes by increasing the risk of stillbirth, congenital infection, low birthweight, and prematurity. Cohen and colleagues (1990), found 20% higher rates of preterm delivery and low birthweight among untreated chlamydial infections in pregnancy. In Malawi, the National AIDS Control Program estimates 15%, or nearly three quarters of a million, adults aged 15 to 49



The Mangochi-based health staff.

Figure 2.1. 1998 Population of Mangochi District Traditional Authorities.



are currently HIV infected. However, only 8% of women aged 15 to 49 and 15% of men aged 15 to 54 report ever being tested for HIV. Thus, many infected individuals may, through unprotected sexual intercourse, unknowingly transmit the virus to their partners. Infected pregnant women risk transmitting the virus to their newborns. In 2001, UNAIDS estimated that between 19% and 29% of urban antenatal clinic attendees in Malawi, that is pregnant women, were HIV positive.

Short of complete sexual abstinence, only consistent condom use currently offers a safe means for avoiding both pregnancy and STI risks (Cates and Spieler, 2001). Neither are frequently used; 11% of men aged 15 to 54 report using the condom compared to 2% of women aged 15 to 49. In the interim, understanding how sexually active individuals perceive and manage their risks for unwanted pregnancy and STIs, with particular attention to HIV/AIDS, is important for promoting behavioral change. With very limited access to expensive antiretroviral therapy, one of the few options available for reducing the spread of HIV in many developing country populations is protective behaviors.

Study Setting

Situated in the eastern part of the continent of Africa along Lake Malawi, Malawi has a population of 9.93 million (National Statistical Office, 1998), residing in 27 districts (six in the northern, nine in the central and 12 in the southern regions). Districts are subdivided into traditional authorities (TAs) overseen by chiefs and in turn are composed of villages presided over by headmen. Malawi's economy is predominantly agricultural with tobacco, tea, and sugar accounting for the majority of exports.

The site for the Pregnancy and STI Avoidance Study is Mangochi district in the eastern lakeside region of Malawi (see maps, pages iii and iv), which is 320 kms from the country's capital city of Lilongwe. In the 1998 census Mangochi had a population of nearly 600,000, estimated in 2001 to be 656,000 persons (Mangochi District Development Office, 1999). The district population is 94% rural, concentrated along the lakeshore, where fishing is the principal economic activity. The district has 735 villages within seven

TAs and two sub-TAs and is predominantly Moslem and from the Yao tribe.

agents deliver nonclinical methods, such as pills and condoms.

Mangochi's total land area is about 332 thousand hectares, of which 79 thousand is arable and 31% of this is under estate cultivation (e.g., tobacco or tea). The main livestock kept by farmers are cattle, goats, sheep, poultry, ducks, doves, pigs, and rabbits. While 85% of the district's population relies on farming as the main source of income, 12% depends on fishing.

The total fertility rate for 1997–2000 in Mangochi is estimated in the Malawi DHS 2000 to be 7.4 births per 1,000 women aged 15 to 49, compared to 6.3 for the entire country. Infant mortality is estimated at 169 deaths per 1,000 births, higher than the national average of 134. Among the major diseases are malaria, respiratory infections, diarrhea, bilharzia, and pneumonia. The district hospital reported almost 4,500 STI cases in 1997.

The district has three hospitals, with the main one in Mangochi "Boma" (town), 29 health centers, two health posts, and 134 outreach clinics (see district map, page iv). Of the three hospitals, one is government and the other two church-operated. Health centers offer preventive, curative, and maternal services. Health posts provide care at the community level, and outreach clinics focus on family planning (FP), antenatal care, immunizations, growth monitoring, and health education. Each TA or sub-TA has at least one health center. There is a shortage of health personnel in the district, with only one doctor registered in the entire district. There are nine clinical officers, 22 medical assistants, five registered nurses, 78 midwives, and 211 health assistants. Traditional birth attendants also provide community-level maternity care and community-based contraceptive distributing

Chapter 3: Waves 1 and 2 Study Design

Study Implementation

The Pregnancy and STI Avoidance Study received approval of the research protocols from the National Health Sciences Research Committee in April 2000 and August 2001. The study has been implemented in two project phases, the first of which began in January 2000 and continued through June 2001. Wave 1 and Wave 2 data collection occurred in the first phase. Wave 1 involved six weekly visits to each respondent, whereas Wave 2 involved two weekly visits. Wave 1 was fielded over a six-month period from June to November 2000 and Wave 2 from January to February 2001.

The study also obtained funding for a second phase (Wave 3) that began in June 2001 and ended in September 2003, with the principal direction shifting to Dr. Joseph deGraft-Johnson and implementation under the Save the Children Federation (SCF). Wave 3 involved only one-time contact with respondents. Mr. Thomas Bisika served as a consultant to the second phase. Fieldwork for Wave 3 took place in March and June 2002. (The study design for Wave 3 is described in Chapter 10.)

Field Work

The fieldwork for the Pregnancy and STI Avoidance Study began in May 2000 with the recruitment of 18 research assistants (10 female and 8 male). As work progressed, the challenges of working in rural Mangochi district required increasing the number of RAs to 25 (15 female and 10 male). More female RAs were engaged to meet the needs for locating and interviewing a larger sample of female respondents in the study. The nature of the survey questions required that

respondents be interviewed by same-sex interviewers.

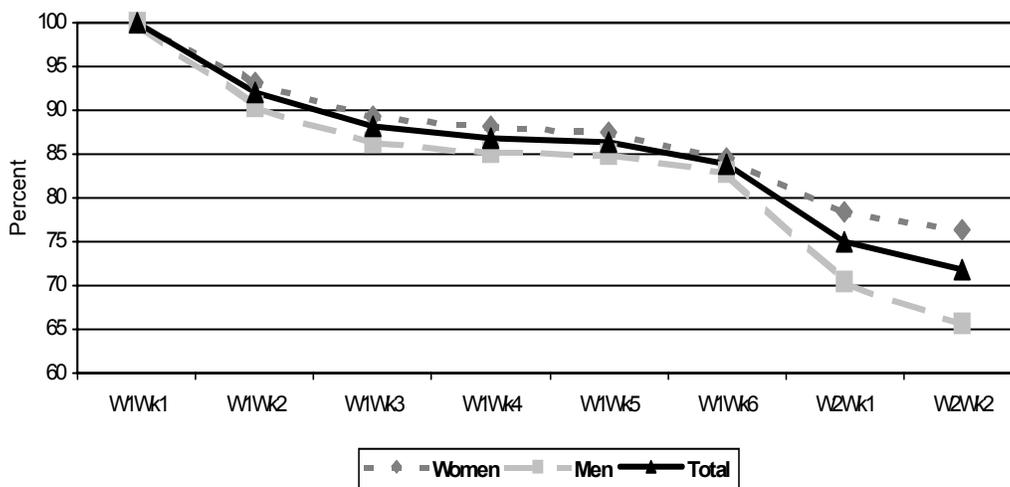
To recruit the research assistants, an advertisement was placed in two widely circulated newspapers, *The Daily Times* and *The Nation*. Eighty (80) applications were received from which 35 were short-listed for in-person interviews. From these, 18 RAs with at least a first degree were employed; some had prior fieldwork experience. The hiring of RAs was done jointly by the Wave 1-2 study principal investigator (PI), a doctoral student from UNC, and the assistant director (administration) of the Centre for Social Research.

Successful applicants (initially 11 female and 7 males) participated in two weeks of study training. Training activities were conducted by the PI, the UNC doctoral student, a Center for Social Research (CSR) statistician, the SCF co-investigator, and a clinical officer from Lilongwe Central Hospital. The training involved interviewing techniques, review of the



The CSR study director (far right) and Lungwena field team.

Figure 3.1 Sample Retention Levels by Wave, Week, and Gender



instruments, translation, pretesting, and procedures for collection and transport of urine samples. The training was conducted at the CSR in Zomba.

After training, the RAs were grouped into four teams and deployed to four enumeration areas (EAs) in each TA. Each team had a designated team leader and was assigned to one EA. There were two female and two male team leaders. Three supervisors, Antonio Kasote (lead supervisor), Collen Kaluwa, and Lucy Chimombo, coordinated the RAs and their teams as they moved among the TAs.

Prior to the start of Wave 2, another week of training was conducted, mainly to educate the RAs on STI treatment, management, and counseling. The training took place in Mangochi and was conducted by the research team and two STI Coordinators from Mangochi District and Zomba Central Hospitals.

Appendix 1 provides the names of the members of the study team. About 70% of the RAs remained with the study all of its first phase, i.e., over the two rounds.

Sample

The study required selection of a scientific sample of 1,390 households in Mangochi district, from which data on a target sample of 950 women aged 15 to 34 and 750 men aged 20 to 44 would be collected. In actuality, data collection exceeded the targets with completed interviews on 1,020 women and 742 men, or a total of 1,762 respondents.

At the first stage, three TAs were selected from the seven rural TAs and two sub-TAs in the district, using the 1998 preliminary census results and probability-proportional-to-size (PPS) procedures. This resulted in the selection of Jalasi and Chowe TAs and Namabvi, a sub-TA.

At the second stage, EAs or clusters defined within each rural TA by the National Statistical Office (NSO), primarily for census purposes, were used for the selection of households. Each EA is comprised of about 300 households. Four EAs were selected within each TA using PPS, again with the census populations providing the measures of size. Maps of the selected EAs

with clearly demarcated boundaries were obtained from the NSO.

A team of six enumerators (three female and three male) were assigned to an EA and listed the households within, an exercise that took one day on average. Households were then sampled from the list using a random starting point and a sampling interval that would provide approximately 125 households per EA. Each selected household was then visited to complete a household survey that enumerated all occupants and obtained information by which to determine their eligibility for the survey (specifically age and gender). Males aged 20 to 44 and women aged 15 to 34 were then asked to participate in the survey and their informed consent was obtained.

Table 3.1 gives an overview of the sample implementation during Waves 1 and 2 and Figure 3.1 graphs the original sample retention levels over the six weeks of Wave 1 and through the second week of Wave 2. By the end of Wave 2, 1,258 (71.9%) of the original 1,762 respondents continued to participate, 172 (9.8%) had moved away permanently and 164 (9%) were temporarily away. There were 91 refusals (5.2%) and seven deaths. Nineteen others were not interviewed for other reasons. Follow up of male respondents was particularly challenging given the mobility of the population in the TAs, especially in Namabvi where the principal occupation is fishing.

Measurement and Questionnaires

Wave 1 involved six questionnaires, one for the baseline and five for the weekly follow-ups. Wave 2 used two weekly questionnaires. The first repeated baseline questions. An update of the household

roster was also obtained.¹ Eligible respondents were invited to participate and signed or provided a thumbprint on an informed consent form (93% overall, 94% among women and 91% among men).

The baseline questionnaire obtained background social, economic, and demographic information on the respondent, as well as information on the respondent's knowledge and use of contraceptive and other reproductive health services; fertility preferences; perceptions about risk for infertility and STIs, including HIV; sexual risk behaviors; recent childbearing; spousal communication; and formal group participation. A retrospective daily record of sexual activity and avoidance behaviors for unwanted pregnancy and STI was obtained each week and special modules supplemented the follow-up questionnaires. In the last week of Wave 2, a retrospective five-year calendar of contraceptive use and pregnancy events was administered.

Biospecimen Collection

In week three of Wave 1, respondents were invited to be tested for gonorrhea and chlamydia by providing a urine sample.



The STD Unit at Lilongwe Central Hospital.

¹ The questionnaires are available on request from the report authors.

Respondents were informed that test results would be communicated back to them within a month to six weeks. Fieldworkers were supplied with a shoulder cooler bag, specimen containers, plastic bags, and gloves for collection of the urine. For women, first-voided morning specimens were preferred for pregnancy testing of maximal hCG concentration, but those collected any other time could be tested. RAs labeled each specimen with the subject's ID. Cooler bags had ice packs for storing the urine specimens, while RAs were in the field. At the end of the day, urine specimens were stored in an ice chest kept where RA teams were staying. Urine samples were collected every day and transported to a field lab, usually set up in a health center, where the laboratory technician tested the urines of female respondents for pregnancy. The Betatex Direct Plus kit, a direct latex agglutination test produced by Omega Diagnostics Ltd., was used for in-vitro detection of hCG in urine. Positive agglutination indicates presence of hCG at a concentration of 0.2 IU/ml or higher, i.e. a physical condition of pregnancy.

The remaining urine was aliquoted into two cryovials and stored in a freezer. Every few days the cryovials were transported to the STD Unit at Lilongwe Central Hospital, where both sets of cryovials were stored frozen at -70°C. At the time of Wave 1, the STD Unit at the hospital did not have the capability to conduct a polymerase chain reaction (PCR)-based test on the urines for gonorrhea and chlamydia. Thus one set of frozen urines was sent to the Center for Infectious Disease (CID) at UNC for testing. The CID, under a National Institutes of Health Fogarty International Center training grant, supported the training of two persons from the LCH lab to learn to conduct the PCR analysis for gonorrhea and chlamydia

detection.² The other set of frozen urines remained at LCH as a backup.

Urine samples were also collected in Wave 2 from anyone who had not given a sample previously, but wished to do so in Wave 2. About 50 additional specimens were obtained.

Following testing, results were communicated back to the LCH lab and CSR, which in turn informed the field supervisors. During the first week of Wave 2 interviews, all tested respondents were informed of their results by the RAs, who had completed one week of training on STI management, treatment, and counseling. As part of the approved protocol, antibiotic treatment was provided to infected men and women as follows: all male gonorrhea cases received a single 500 mg dose of Ciproflaxin, and all male chlamydia cases 100 mg of doxycycline (taken twice daily for seven days). Those infected with both received the doxycycline treatment only. All infected women were supplied with 500 mg of erythromycin (taken four times daily for seven days). All non-infected individuals were provided with a daily 500 mg dose of Vitamin C (for seven days), such that full coverage of the sample with specific or general health treatment was obtained. The strategy masked treatment directed at infected individuals and protected their identity. All respondents were also counseled on STI detection, management, and treatment and were offered condoms in Wave 2, irrespective of infection status.

² While the investigators would have preferred to engage local testing capacity, this did not exist. Subsequent to the UNC training, the requisite equipment, reagent supplies, and skills became available at LCH and were employed for the second round of urine collection in Wave 3.

Table 3.1 Study Sample Coverage by Wave, Week and Traditional Authority

Traditional area	Wave 1					Wave 2					Wave 3				
	Interviewed	Moved away	Temp away	Refused	Dead Sick Other	Interviewed	Moved away	Temp away	Refused	Dead Sick Other	Interviewed	Moved away	Temp away	Refused	Dead Sick Other
WAVE 1															
JALASI															
Women	361	0	0	0	0	352	0	0	0	0	0	0	0	0	11
Men	270	0	0	0	0	267	0	0	0	0	3	0	4	0	9
Total	631	0	0	0	0	619	0	0	0	0	12	0	4	0	20
CHOWE															
Women	330	2	5	6	0	280	2	17	33	0	4	12	18	30	1
Men	246	0	2	4	0	218	0	14	17	0	0	9	205	19	0
Total	576	2	7	10	0	498	2	31	50	0	4	21	467	49	1
NAMABVI															
Women	329	1	9	8	0	312	1	18	15	0	0	20	294	0	30
Men	226	20	28	6	0	181	20	70	11	0	0	4	175	20	6
Total	555	21	37	14	0	493	21	88	26	0	0	24	469	21	35
TOTAL	1762	23	44	24	0	1610	23	119	76	0	4	57	1543	23	95
WAVE 1															
JALASI															
Women	348	0	0	0	0	347	0	0	0	0	0	14	340	0	21
Men	251	0	3	6	0	250	0	2	4	0	0	14	250	0	12
Total	599	0	3	6	0	597	0	2	4	0	0	28	590	0	33
CHOWE															
Women	251	3	19	30	1	247	4	26	40	0	3	28	233	4	41
Men	203	0	29	20	0	196	0	37	20	0	0	5	187	0	11
Total	454	3	48	50	1	443	4	63	60	0	3	33	420	4	52
NAMABVI															
Women	293	0	6	22	0	292	1	24	25	0	0	24	283	0	39
Men	175	32	50	14	0	180	28	51	13	0	0	14	174	2	18
Total	468	32	56	36	0	472	29	75	38	0	0	38	457	2	57
TOTAL	1521	35	107	92	1	1512	33	140	102	0	3	99	1467	6	142
WAVE 2															
JALASI															
Women	288	24	39	3	2	279	36	23	4	2	1	12			
Men	192	28	30	5	0	177	37	34	5	0	2	3			
Total	480	52	69	8	2	456	73	57	9	2	3	15			
CHOWE															
Women	247	23	19	38	2	240	29	16	39	2	4	1			
Men	175	29	19	11	1	160	29	35	15	0	1	0			
Total	422	52	38	49	3	400	58	51	54	2	5	1			
NAMABVI															
Women	260	23	15	17	1	255	17	17	21	2	0	9			
Men	152	18	43	8	0	147	24	39	7	1	1	4			
Total	412	41	58	25	1	402	41	56	28	3	1	13			
TOTAL	1314	145	165	82	6	1258	172	164	91	7	9	29			

Chapter 4: Sample Composition

Table 4.1 provides the social, economic, and demographic characteristics of the study sample. As seen in the table, the sample consists of 742 men and 1,020 women. Men's ages range from 20 to 44 years, although over half of the sample population is between 20 and 29. Women's ages range from 15 to 34 years, with a fairly even distribution among age groups. Most men have attained primary level education (57.3%) and an additional 12.7% have received a secondary or higher education. Women are much more likely to not have had any education; 48.1% received primary level and only 3.8% received secondary or higher. More men than women are at parity zero (41% compared to 20.4%), and fewer men than women are at each level of parity thereafter. One in five women, and almost as many men, has four or more children.

Over 50% of men are unpaid laborers and 26.7% are not currently working. Among women, 64% are unpaid and 16.8% are not currently working. The most common occupations for men are farming and trade, while for women farming is the main type of employment. The median annual household income reported by 1,347 households was 6,000 kwacha, approximately US\$128; and the mean was 15,700 kwacha, or US\$334. The majority of respondents are in the middle of the household income range, with 10.1% of men and 11.7% of women reporting an income of less than 1,500 kwacha (approximately US\$25) and 10.1% of men and 8.1% of women reporting an income of more than 40,000 kwacha (US\$851).

The majority of men and women in this sample are married or in a union (70.2% of men and 77.1% of women). Women were

asked about the existence of co-wives, and although most married women did not report having any, nearly 20% have one co-wife. Less than 2% have two or more co-wives. Men were asked about the number of partners they have. The most common response was one (62.5%), although 12% reported two and 1.4% reported three or more. Almost one-fourth of male respondents reported that they had no partner or did not offer a number.

Table 4.2 provides the physiological characteristics of the study sample. Nearly half the sample population of women are currently pregnant or breastfeeding. Just over 10% report that they are now pregnant. Men's reports of wives' pregnancy and breastfeeding status are somewhat lower than that reported by women. Slightly more than 15% of women were currently menstruating. Men's reports of their wives' menstrual status were also lower than women's reports, by almost 50%. More men than women fall into the "not applicable/not reported" category for these indicators. Most men and women responded that they were feeling very strong or strong during the past week. The percentage of men and women giving such a response is nearly the same, although fewer women felt very strong as compared to men (57.7% vs. 67.2%). Slightly more women than men felt tired or very tired (15.2% vs. 13.9%).

Overall, 23.3% of women reported that they had ever experienced difficulty getting pregnant and 9% of men reported that their wife had ever experienced difficulty getting pregnant. While 85% of women responded to this question, only 33.5% of men responded. 39% of men reported not having children and 25% reported that they never tried to have children.

Table 4.1 Social, Economic, and Demographic Characteristics of Mangochi Study Sample

Characteristic	Men		Women	
	n	%	n	%
Total	742	100.0	1020	100.0
Current Age				
15-19	na	na	233	22.8
20-24	244	32.9	287	28.1
25-29	182	24.5	298	29.2
30-34	121	16.3	196	19.2
35-39	103	13.9	na	na
40-44	83	11.2	na	na
Not reported	9	1.2	6	0.6
Schooling				
None	219	29.5	485	47.6
Primary	425	57.3	491	48.1
Secondary or higher	94	12.7	39	3.8
Not reported	4	0.5	5	0.5
Parity				
0	304	41.0	208	20.4
1	119	16.0	243	23.8
2	122	16.4	207	20.3
3	68	9.2	149	14.6
4+	126	17.0	208	20.4
Not reported	3	0.4	5	0.5
Paid Work Status				
Paid	150	20.2	191	18.7
Unpaid	390	52.6	653	64.0
Not currently working	198	26.7	171	16.8
Not reported	4	0.5	5	0.5
Occupation				
Farm	239	32.2	629	61.7
Skilled	131	17.6	92	9.0
Trade	166	22.4	120	11.8
Not currently working/Not reported	206	27.8	179	17.5
Annual Household Income *				
< 1500 Kwacha	75	10.1	119	11.7
1501-4000	113	15.2	179	17.5
4001-9000	166	22.4	216	21.2
9001-20000	151	20.4	215	21.1
20001-40000	162	21.8	208	20.4
> 40000	75	10.1	83	8.1

[continued]

Characteristic	Men		Women	
	n	%	n	%
Marital Status				
Married/In union	521	70.2	786	77.1
Not married/In union	218	29.4	229	22.4
Not reported	3	0.4	5	0.5
Number of cowives				
None			517	50.7
1			203	19.9
2+		na	16	1.6
Don't know			55	5.4
Not married/In union			223	21.8
Not reported			6	0.6
Number of partners				
1	464	62.5		
2	89	12.0		na
3+	10	1.4		
No partner/not reported	179	24.1		

* At the time of the study \$1US=47 Malawi Kwacha

Table 4.2 Physiological Characteristics of Mangochi Study Sample

Characteristic	Men		Women	
	n	%	n	%
Total	742	100.0	1020	100.0
(Wife's) Breastfeeding Status				
Yes	220	29.6	469	46.0
No	241	32.5	307	30.1
Not applicable/Not reported	281	37.9	244	23.9
(Wife's) Current Pregnancy Status				
Yes	103	13.9	130	12.7
No	455	61.3	823	80.7
Not sure	5	0.7	14	1.4
Not applicable/Not reported	179	24.1	53	5.2
(Wife's) Current Menstrual Status				
Yes	54	7.3	160	15.7
No	380	51.2	860	84.3
Don't know	26	3.5	na	na
Not applicable/Not reported	282	38.0	na	na
Reported Strength in Past Week				
Very strong	499	67.2	588	57.7
Strong	130	17.5	266	26.0
Tired or very tired	103	13.9	155	15.2
Not reported	10	1.4	11	1.1
Ever Had Difficulty Getting Pregnant				
Yes	67	9.0	238	23.3
No	182	24.5	629	61.7
Not applicable/Not reported ¹	493	66.5	153	15.0

Note: Includes men who did not have children (39%) and who reported they "never tried to become pregnant" (25%).

Chapter 5: Fertility and Pregnancy Avoidance

Fertility Intentions

Overall, the majority of women (72.4%) and almost half of the men (49.2%) in the sample intend to have another child, as seen in Table 5.1. This percentage for both sexes declines with age, education, and parity. Except for the highest age category, the most commonly given time until next child for men was within one to two years, while for women it was greater than two years. For men and women in the highest age categories, the most frequently cited response was waiting less than one year. The most frequently given ideal number of children was four, followed by five or more. These two responses alone account for over half of all responses about the ideal number of children from both sexes. For men and women with secondary or higher education, the most common response is three children, followed by four, with very few women (2.6%) and some men (12.8%) still identifying five or more as the ideal.

Knowledge of the Fertility Cycle

Table 5.1 also shows that knowledge of the fertile period is very low for both men and women. Overall, 93.7% of women and 88.5% of men do not have any knowledge of the days in which a woman is most fertile. Women and men with secondary or higher education report knowledge much more often: 18% and 23.1% of women named all fertile days (days 10–14) or one or more fertile days, while 13.8% and 21.3% of men named all fertile days or one or more.

Current Contraceptive Use

One in five women and about 18% of men report current use of FP, as seen in Table 5.1. The percent progressively increases with education for men, while women with primary education report the highest use. The most common methods cited by both

men and women are Depo-Provera and periodic abstinence. Condoms account for very little FP use, although the percentage of users increases with education, from 3.2% to 10.6% for men and 0.6% to 2.6% for women. At the secondary or higher education level, condom use is the most commonly cited method of FP for men.

Locus of Control

The responses to the locus of control questions in Table 5.2 reveal a number of inconsistencies in the attitudes expressed by the women and men of this population. To begin with, most women and men report that their own behavior can determine whether pregnancy occurs, although men are much more likely to strongly agree with the statement. A similar pattern is evident for the statement regarding personal behavior and whether an STI is contracted. However, about three-fourths of men and women agree or strongly agree that things that affect their health happen by accident. Less than half of female respondents feel that they are in control of their health, while slightly more than half of men feel this way. Interestingly, almost 95% of women and men agree or strongly agree that health professionals determine their health. Around 90% of women and men agree or strongly agree that if they take care of themselves they can avoid getting pregnant and/or avoid contracting a STI. Nearly all men agree or strongly agree that if they take care of themselves they can avoid getting an STI. However, nine in 10 women and three-fourths of men express fatalism about pregnancy, agreeing that women will get pregnant if it is meant to be. Women are also more likely to be fatalistic about getting an STI, over 80% agree that they would get an STI if it was meant to be while 64.5% of men felt this way.

Table 5.1a Percent Distribution of Men by Fertility Intentions, Pregnancy Avoidance and Selected Background Characteristics

Men	Future Fertility Intentions			Time Until Next Child			Ideal Number of Children							
	n	A/Another	No More	DK	Exposed	Not			1-2	3	4	5+	DK	
						n	< 1 yr	1-2 yrs						> 2yrs
Total	742	49.2	13.7	6.4	30.7	315	35.9	43.2	20.9	10.2	17.9	30.5	25.4	16
Age group														
20-24	244	31.3	1.2	2.1	65.4	69	33.3	39.1	27.5	14.3	24.6	29.9	20.5	10.7
25-29	182	70.3	10.4	6.0	13.2	117	34.2	47.9	18.0	11.6	16.6	30.4	26.0	15.5
30-34	121	50.4	25.2	7.6	16.8	50	34.0	42.0	24.0	6.6	14.9	37.2	26.5	14.9
35-39	103	51.5	24.3	12.6	11.7	42	38.1	40.5	21.4	4.9	12.6	30.1	29.1	23.3
40-44	83	49.4	27.7	10.8	12.1	34	44.1	41.8	14.7	7.3	12.2	23.2	31.7	25.6
Education														
None	219	59.0	12.4	10.6	18.0	105	31.4	49.5	19.1	5.0	14.2	23.7	31.1	26.0
Primary	425	46.1	14.4	5.4	34.1	174	39.7	41.4	19.0	12.5	17.0	31.7	25.3	13.5
Secondary or higher	94	39.8	14.0	1.1	45.2	35	28.6	34.3	37.1	11.7	30.8	14.5	12.8	3.2
Parity														
0	304	29.4	1.0	2.0	67.6	83	45.8	34.9	19.3	14.5	23.0	29.0	19.7	13.8
1	119	80.5	3.4	6.8	9.3	85	37.7	41.2	21.1	15.1	22.7	22.7	23.5	16.0
2	122	68.0	21.3	5.7	4.9	73	31.5	48.0	20.5	6.6	18.0	42.6	20.5	12.3
3	68	64.2	23.9	11.9	0.0	37	18.9	48.7	32.4	2.9	10.3	41.2	32.4	13.2
4+	126	41.3	41.3	14.3	3.1	37	35.1	51.4	13.5	2.4	4.8	24.2	41.9	26.6
Income														
Less than 1,500	75	45.2	12.3	4.1	38.4	29	62.1	24.1	13.8	9.6	20.1	28.8	23.3	17.8
1,501-4,000	113	51.3	12.4	9.7	26.6	53	32.1	47.2	20.7	4.4	18.6	29.2	30.1	17.7
4,001-9,000	166	52.4	11.5	4.2	31.9	70	42.9	45.7	11.4	9.6	17.5	27.7	28.3	16.9
9,001-20,000	151	49.7	18.8	6.7	24.8	66	27.3	48.5	24.2	8.1	18.8	30.9	25.5	16.8
20,001-40,000	162	51.3	10.6	6.9	31.3	72	30.6	38.9	30.5	14.9	14.3	33.5	23.0	14.3
Greater than 40,000	75	37.3	18.7	6.7	37.3	25	32.0	48.0	20.0	14.7	21.3	33.3	18.7	12.0

[continued]

	Knowledge of Fertile Period (Days 10-14)		Current FP User		Method						
	All	>= 1	None	Yes	Pill	Condom	Depo	Periodic			
								Abstain	Other*		
Total	5.4	6.1	88.5	18.4	2.6	4.3	5.1	4.5	1.9		
Age group											
20-24	7.0	6.6	86.4	13.5	1.2	5.7	3.7	2.1	0.8		
25-29	5.0	7.1	87.9	16.5	2.8	2.8	5.5	4.4	1.0		
30-34	7.5	9.9	82.6	24.8	4.1	6.6	7.4	6.6	0.1		
35-39	2.9	2.9	94.8	20.4	4.9	1.9	4.9	3.9	4.8		
40-44	2.4	1.2	96.4	25.3	1.2	3.6	6.0	9.6	4.9		
Education											
None	2.3	2.7	95.0	16.0	1.8	3.2	3.7	3.2	4.1		
Primary	5.2	4.5	90.3	18.8	2.4	3.5	5.2	5.9	1.8		
Secondary or higher	13.8	21.3	64.9	22.3	5.3	10.6	8.5	1.1	0.0		
Parity											
0	4.0	6.2	89.8	4.6	0.0	4.3	0.3	0.3	0.0		
1	10.1	5.0	84.9	23.5	3.4	3.4	6.7	5.9	4.1		
2	5.7	13.1	81.2	29.5	4.9	5.7	7.4	7.4	4.1		
3	7.4	1.5	91.1	30.9	4.4	1.5	10.3	10.3	4.4		
4+	3.2	2.4	94.4	29.4	4.8	5.6	10.3	7.1	1.6		
Income											
Less than 1,500	8.0	2.7	89.3	15.1	2.7	4.1	2.7	2.7	2.9		
1,501-4,000	4.4	2.7	92.9	19.5	1.8	6.2	5.3	6.2	0.0		
4,001-9,000	4.2	4.2	91.6	18.7	3.0	3.6	3.6	4.8	3.7		
9,001-20,000	6.6	6.6	86.8	22.7	3.3	6.0	8.7	5.3	0.0		
20,001-40,000	5.0	8.6	86.4	14.8	3.1	1.9	3.1	3.1	3.6		
Greater than 40,000	5.3	12.0	82.7	18.7	0.0	5.3	8.0	4.0	1.4		

* Other includes: traditional methods, LAM, withdrawal

Table 5.1b Percent Distribution of Women by Fertility Intentions, Pregnancy Avoidance and Selected Background Characteristics

Women	Future Fertility Intentions			Time Until Next Child			Ideal Number of Children							
	n	A/Another	No More	DK	Not Exposed	n	< 1 yr	1-2 yrs	> 2yrs	1-2	3	4	5+	DK
Total	1020	72.4	16.1	4.0	7.5	601	33.4	29.1	37.5	9.1	13.1	32.1	28.1	17.6
Age group														
15-19	233	67.8	4.7	2.2	25.3	125	28.0	33.6	38.4	15.9	14.2	33.0	20.6	116.3
20-24	287	85.9	7.4	4.6	2.1	204	30.4	28.9	40.7	8.5	15.9	38.2	22.3	15.1
25-29	298	72.2	21.7	3.1	3.1	177	33.3	27.7	39.0	5.4	13.9	31.2	32.9	16.6
30-34	196	58.7	33.2	6.6	1.5	95	47.4	25.2	27.4	7.1	6.6	23.5	38.3	24.5
Education														
None	485	73.3	20.0	4.0	2.7	279	34.8	30.4	34.8	6.0	10.6	27.7	31.6	24.1
Primary	491	72.4	12.3	3.9	11.5	300	33.3	28.0	38.7	10.4	13.9	36.6	26.6	12.5
Secondary or higher	39	59.0	15.4	5.1	20.5	22	18.2	22.7	59.1	29.0	34.2	31.6	2.6	2.6
Parity														
0	208	65.1	1.5	1.5	32.0	100	42.0	29.0	29.0	18.5	16.5	28.6	18.9	17.5
1	243	86.8	7.0	3.7	2.5	184	39.7	30.4	32.6	14.5	18.2	31.8	19.4	16.1
2	207	83.0	11.2	4.4	1.5	143	28.7	27.3	44.0	7.3	11.7	42.0	23.9	15.1
3	149	72.6	24.7	2.1	0.7	91	22.0	31.9	46.1	1.4	16.3	34.0	34.0	14.3
4+	208	51.9	39.9	7.7	0.5	83	36.1	25.3	38.6	0.5	2.9	25.0	47.1	24.5
Income														
Less than 1,500	119	72.3	14.3	3.4	10.1	70	34.3	31.4	34.3	7.6	12.6	28.6	26.0	25.2
1,501-4,000	179	75.7	15.3	4.0	5.1	111	41.5	28.8	29.7	9.0	10.7	30.5	28.8	20.9
4,001-9,000	216	70.1	16.8	6.5	6.5	120	28.3	34.2	37.5	8.9	15.4	31.8	24.3	19.6
9,001-20,000	215	75.6	13.6	4.2	6.6	138	32.6	29.7	37.7	7.0	13.6	35.5	29.4	14.5
20,001-40,000	208	72.4	18.2	1.5	7.9	118	33.1	23.7	43.2	8.9	10.8	35.0	31.5	13.8
Greater than 40,000	83	62.7	19.3	3.6	14.5	45	28.9	24.4	46.7	18.3	17.1	25.6	26.8	12.2

[continued]

	Knowledge of Fertile Period (days 10-14)		Current FP User		Method				
	All	>= 1	None	Yes	Pill	Condom	Depo	Periodic Abstin	Other*
Total	3.3	3.0	93.7	20.5	1.8	1.0	8.0	6.9	2.8
Age group									
15-19	3.0	2.6	94.4	16.3	1.7	2.2	5.6	6.4	0.4
20-24	2.8	3.8	93.4	24.0	2.8	0.7	9.4	8.7	2.4
25-29	3.0	3.4	93.6	21.5	1.3	1.0	9.4	5.7	4.1
30-34	4.6	2.0	93.4	18.9	1.0	0.0	6.6	6.6	4.7
Education									
None	2.1	1.2	96.7	19.6	1.9	0.6	6.6	7.8	2.7
Primary	3.3	3.3	93.4	21.8	1.6	1.2	9.4	6.3	3.3
Secondary or higher	18.0	23.1	58.9	15.4	2.6	2.6	7.7	2.6	0.0
Parity									
0	3.9	2.9	93.2	4.8	0.0	1.4	0.5	1.4	1.5
1	2.9	4.5	92.6	27.6	3.7	1.2	8.6	11.9	2.2
2	3.4	1.9	94.7	18.8	1.5	0.0	11.1	4.4	1.9
3	3.4	3.4	93.2	23.5	3.4	1.3	8.1	8.7	2.0
4+	2.9	2.4	94.7	27.4	0.5	1.0	11.5	7.7	6.7
Income									
Less than 1,500	0.8	1.7	97.5	15.1	0.8	0.0	4.2	5.6	4.5
1,501-4,000	1.7	1.7	96.6	26.4	1.1	1.1	9.6	13.5	1.1
4,001-9,000	2.8	3.2	94.0	21.8	2.3	2.3	6.5	7.4	3.3
9,001-20,000	4.2	4.7	91.1	20.2	1.9	0.9	9.9	4.7	2.8
20,001-40,000	4.8	1.4	93.8	19.4	2.9	0.0	9.7	3.4	3.4
Greater than 40,000	4.8	7.2	88.0	15.7	0.0	1.2	4.8	7.2	2.5

* Other includes: traditional methods, LAM, withdrawal

Table 5.2 Percent Distribution of Locus of Control by Gender

Statement	Women					Men				
	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
My own behavior determines if I/my partner will become pregnant	36.4	42.7	4.8	13.4	2.7	65.5	23.3	4.1	3.0	4.1
My own behavior determines if I will contract an STI	34.9	40.6	3.7	15.2	5.5	69.0	23.5	1.4	2.4	3.7
Most things that affect my health happen by accident	36.2	36.9	6.4	16.0	4.5	51.2	24.3	8.8	12.0	3.7
I am in control of my health	18.7	29.1	10.5	28.9	12.8	34.1	18.6	13.0	24.3	10.0
My family has a lot to do with my becoming sick or staying healthy	13.9	17.0	10.2	37.5	21.4	13.9	5.7	7.1	35.1	38.2
Health professionals determine my health	59.3	34.8	1.2	3.7	1.0	69.0	26.9	1.4	0.8	1.8
If I take care of myself, I/my partner can avoid getting pregnant	42.3	45.4	1.8	5.5	1.0	56.7	32.0	5.3	2.7	3.3
If I take care of myself, I can avoid getting an STI	46.1	47.0	1.7	4.4	0.8	73.1	24.3	1.2	0.4	1.0
If it is meant to be, I/my partner will get pregnant	44.7	45.6	3.9	4.8	1.0	53.1	21.6	3.1	15.1	7.1
If it is meant to be, I will get an STI	38.0	44.1	5.4	8.8	3.7	44.3	20.2	3.7	17.9	13.9

Chapter 6: STI/HIV Avoidance

STI/HIV Knowledge

As shown in Table 6.1, nearly all men and women responding have heard about STIs and HIV. The most commonly known STIs, among both men and women, include gonorrhea, syphilis, and mabumu/buboes (*lymphoma granuloma in guinale*). The mean age for first learning about STIs differs only slightly between men and women, 15.5 and 15 years, respectively.

Both men and women report difficulty walking and weight loss as STI symptoms, with difficulty walking a possible result of *epididymitis* or pelvic inflammatory disease. However, for both male and female STI symptoms, men most commonly recognized difficulty walking and women most commonly recognized weight loss.

Relatives are the most common source of men's and women's first knowledge about STIs, while the media is their most common source of first knowledge about HIV. With respect to both types of knowledge, the media is a more common source for men than for women, while health workers are a more common source for women than for men.

Most men and women acknowledge that HIV can be transmitted from mother-to-child. Men most commonly recognized pregnancy as a mode of vertical transmission, compared to delivery and breastfeeding, while women most commonly recognized breastfeeding.

Condoms and abstinence are the most commonly mentioned methods for avoiding STIs. In addition, a considerable proportion of men (19.6%) mention having only one

partner as a way to avoid STIs, versus 7.5% of women. Similarly, condoms, abstinence, and having only one partner are the most commonly mentioned ways to avoid HIV. Considerable proportions of both men and women also report avoiding the sharing of razors as a way to prevent HIV infection.

Relatives are the most commonly reported source of first knowledge of STIs for both men and women. For men, friends and media are also likely first sources, although there is some variation by age. Whereas friends and relatives are more often cited by older age groups, the media plays more of a role for younger men. In fact, more than one in five men aged 20-29 identified the media as their first source of knowledge of STIs.

Although relatives and friends are likely first sources of STI information for women as well, the health sector is more prominent, especially for older women and women of high parity. The media is mentioned less often by women than men. Teachers are mentioned by 12.2% of women aged 15-19, but not by more than 5% of women in older age groups.

The first source of knowledge of STIs also varies by education. Men and women with secondary or higher education cite teachers as the first source of knowledge much more often than those with lower levels of education. For women, those with no education are more likely to mention the health sector as a first source of knowledge (21.9%) than those with primary or secondary education.

Reports of the first source of knowledge of HIV differ from those of STIs. For both

men and women, the media is the most commonly cited source. Among women, the health sector and friends are also commonly cited, while men are also likely to receive their first information from friends and relatives.

Education continues to be an important variable for differences in reporting first source of HIV knowledge. Women with no education are most likely to report the health sector as the first source of HIV knowledge, and women with secondary or higher education are most likely to report the media. Men of all education levels are most likely to report learning of HIV from the media, although the percentage is highest among men with no education. The proportion of men learning of HIV from the health sector is slightly greater than that for STIs, and increases with education.

STI/HIV Risk Perception

Most men and women feel they are at no risk of HIV infection. For women, the proportion is highest for ages 15–19 (62.0%). For men, the proportion is highest for ages 35–39 (60.4%). Men are less likely to report great risk as age increases (from 12% among 20–24 year olds to 1% among 40–44 year olds). The percentage of women reporting great risk is lowest for 15–19 year olds (6.3%) and remains steady at 13–14% for all other age groups.

Men and women with the highest level of education are less likely to perceive themselves at no risk and are the most likely to report they are at great risk, than are men and women in other education categories.

For women, the perception of risk of HIV infection increases as parity increases. For men, the reported perception is more variable, although men with two children are

most likely to perceive themselves at some risk of HIV infection.

Over three fourths of men and almost as many women know someone who has AIDS or has died from AIDS. For both men and women, the proportion increases with education. Among all parity categories, men with two children report the highest percentage, while women with four or more children report the highest percentage.

Most men believe that it is possible for a healthy looking person to have HIV. Although age, parity and income do not show clear trends, increases in education show an increase in the percentage of men agreeing that healthy looking people can have HIV. Most women also report that healthy looking people can have HIV, although overall, the proportion is somewhat less than for men. For women, there is also a large difference by education: 60% of those with no schooling agreed that healthy looking people can have HIV, while 94.6% of those with secondary or higher education agreed.

Knowledge of STI Symptoms

The results of a comparison of men's and women's knowledge of STI symptoms is shown in Table 6.3. In general, men are more likely to mention difficulty walking and women are more likely to mention weight loss as a symptom of STIs. The percent of men mentioning difficulty walking as a symptom of STIs for both men and women is over 50% for every age group and education level. Yet, the percentages generally increase with age and decrease by level of education. Conversely, the percent of men mentioning weight loss as a symptom of STIs for both men and women is consistently less than 50% (in the 20–40% range), decreases with age, and increases by level of education.

The percent of women mentioning weight loss as a symptom of STIs for both men and women ranges between 50% and 60% and does not vary linearly by age or education. The percent of women mentioning difficulty walking as a symptom does not follow a linear trend for age, but does for education, such that a higher percentage of women with little or no education named difficulty walking as a symptom than did women with secondary or higher education (n=37). Across age groups and levels of education, women were more likely to recognize weight loss and difficulty walking as a symptom for women than for men. Men were more likely to mention difficulty walking for men than for women, and although mentioned less often, nearly equal percentages recognized weight loss as a symptom for both men and women.

STI/HIV Avoidance Behavior

Abstinence and condoms are the most often mentioned STI avoidance behaviors by both men and women. Very few women identify having only one partner for STI avoidance, although almost three times as many men mention the behavior. Compared to STI avoidance, having only one partner to avoid HIV infection is mentioned much more often by both women and men, and is the most commonly given avoidance behavior for women in the older age groups (25–29 and 30–34) and for those with no education. Overall, women most commonly mention abstinence as a means to avoid STI infection and having only one partner as a means to avoid HIV infection. Men are more likely to mention condom use as a means to avoid HIV infection than to avoid STI infection.

Differences in the percent reporting condom use as an avoidance behavior are evident when considering education level. For women with secondary or higher education, 78.4% mention condom use to avoid STIs

and 89.2% mention condoms to avoid infection with HIV. Only 32% and 35.1% of women with no education mention condom use for STI and HIV avoidance. Male responses show a similar pattern: condom use for STI and HIV avoidance is mentioned by 79.6% and 77.5% of men with secondary or higher education and by 42.2% and 65.3% of men with no education.

Knowledge of Mother-to-Child HIV Transmission

Table 6.5 shows the percent of men and women reporting knowledge of mother-to-child transmission (MTCT) of HIV according to selected background variables. Overall, the level of knowledge is relatively high. The proportion of men reporting general knowledge is high across all age categories, but is lowest for both sexes among the youngest age groups. Among respondents who are aware of MTCT, knowledge of HIV transmission specifically through pregnancy, delivery, and breastfeeding is higher for women than men. Of the three MTCT mechanisms, transmission through delivery shows the lowest reported knowledge.

The proportion of men and women reporting knowledge of MTCT varies by education level. For both sexes, the proportion is lowest among those with no education and highest among those with secondary or higher education. However, the reverse is true for transmission through delivery and breastfeeding, where men and women with no education report knowledge more often than those with primary or secondary or higher education.

The proportion of women reporting knowledge of MTCT increases with parity, from 65% at parity 0 to 83.4% at parity 4+. The proportion of men reporting is also

lowest at parity 0 (82.1%) but does not continually increase with increasing parity. Women who are aware of MTCT show no general patterns for the proportion reporting on transmission through pregnancy, labor or delivery by parity, while men who are aware of MTCT show declines with parity in the proportion reporting on transmission through pregnancy and delivery.

Reported knowledge of MTCT by income differs between men and women. Differences between the lowest income category and the highest are small for women, yet variable for men (by as much as 24 percentage points). Men in the lowest income categories have the lowest reported knowledge of transmission through pregnancy and delivery, and nearly the lowest reported knowledge of MTCT, compared to men in higher income categories. Conversely, men in the lowest income category who are aware of MTCT have the highest reported knowledge of transmission of HIV through breastfeeding (90.0%). Women in the lowest income categories also have a high reported knowledge of transmission through breastfeeding (93.9%), although it is similar to the percentages reported for the other income levels

Table 6.1 Percent Distribution of STI/HIV Knowledge among Men Aged 20 to 44 and Women Aged 15 to 34

	STI		HIV	
	Men (n=668)	Women (n=955)	Men (n=668)	Women (n=955)
Ever heard of				
% Yes (n)	97.6 (652)	98.2 (938)	98.8 (660)	98.3 (939)
Types of STIs heard of				
Gonorrhea	90.3 (589)	81.5 (764)		
Syphilis	84.8 (553)	68.6 (643)		
Mabumu/Buboes	73.8 (481)	75.8 (711)		
Chitayo *	6.6 (43)	1.4 (13)		
Pubic lice	2.9 (19)	3.1 (29)		
Trichomoniasis/Yeast	0.9 (6)	4.5 (42)		
Genital warts	0.9 (6)	3.2 (30)		
Mean age when first heard	15.5 (565)	15 (641)		
Women's STI symptoms	(n=652)	(n=938)		
Difficulty walking	56.4 (368)	47.2 (443)		
Weight loss	31.0 (202)	57.8 (542)		
Genital problems	19.8 (129)	24.7 (232)		
Painful urination	16.0 (104)	9.3 (87)		
Foul-smelling discharge	12.4 (81)	14.0 (131)		
Hair changes	8.0 (52)	18.4 (173)		
Men's STI symptoms				
Difficulty walking	62.9 (410)	44.8 (420)		
Weight loss	31.8 (207)	55.4 (520)		
Genital problems	21.8 (142)	18.7 (175)		
Painful urination	24.4 (159)	7.0 (66)		
Discharge	20.3 (132)	7.9 (74)		
Swelling in groin	13.2 (86)	14.7 (138)		
Hair changes	7.7 (50)	15.8 (148)		
Source of first knowledge	(n=652)	(n=938)	(n=660)	(n=939)
Relative	38.8 (253)	32.9 (309)	58.3 (385)	31.2 (293)
Same Sex Friend	28.4 (185)	28.0 (263)	14.2 (94)	22.8 (214)
Media	20.4 (133)	12.7 (119)	13.3 (88)	13.6 (128)
Teacher	5.1 (33)	4.4 (41)	8.2 (54)	26.0 (244)
Health Sector	4.6 (30)	16.5 (155)	3.9 (26)	4.2 (39)
Other**	2.8 (18)	5.4 (51)	2.0 (13)	2.2 (21)

[continued]

Abstinence	60.0 (391)	52.9 (496)	60.4 (382)	45.9 (356)
Condom	58.4 (381)	39.7 (372)	70.5 (446)	50.9 (395)
Have only one partner	19.6 (128)	7.5 (70)	46.3 (293)	52.3 (406)
Avoid sex with prostitutes	5.7 (37)	3.7 (35)	10.9 (69)	1.0 (8)
Avoid vaginal sex	2.6 (17)	5.8 (54)		
Medicine	2.5 (16)	11.2 (105)	not applicable	
Treatment	NM	7.0 (65)		
Injections	not applicable		6.8 (43)	5.5 (43)
Sharing razors			16.6 (105)	14.4 (112)

* Chitayo refers to the illness believed to affect a man who has sex with a woman who has aborted her pregnancy.

** *Other* for First Source of STI

Knowledge

Men=female friend, ngaliba, traditional healer, nakanga, had buboes, don't remember, no one
 Women=male friend, nankungwi, boyfriend, drama group, initiation ceremony, people
 who had STI, passers by, elderly people, people in general, don't remember, missing.

Other for First Source of HIV Knowledge

Men=female friend, drama group, don't remember
 Women=drama group, people in general

Table 6.2a Percent Distribution of STI and HIV Risk Perception Variables by Selected Background Characteristics for Men

Men	Perceived HIV Risk			Know Someone With/Who Died With AIDS			Possible for a Healthy-looking Person to Have AIDS					
	n	Small	Moderate	Great	No Risk	Yes	No	Don't Know	n	Yes	No	Don't Know
Total	660	28.6	10.8	9.1	51.5	78.2	20.5	1.3	660	87.7	9.1	3.2
Age group	653								653			
20-24	225	27.6	10.7	12.0	49.8	75.6	22.7	1.8	225	84.9	12.9	2.2
25-29	166	27.7	7.8	10.8	53.6	77.7	21.7	0.6	166	91.6	6.6	1.8
30-34	103	28.2	18.5	6.8	46.6	81.6	16.5	1.9	103	88.4	8.7	2.9
35-39	91	26.4	7.7	5.5	60.4	80.2	17.6	2.2	91	87.9	5.5	6.6
40-44	68	36.8	11.8	1.0	47.1	80.9	19.1	0.0	68	85.3	8.8	5.9
Education	656								656			
None	184	32.6	9.8	4.9	52.7	75.0	23.4	1.6	184	83.7	9.2	7.1
Primary	383	27.4	9.9	10.4	52.2	78.9	20.1	1.0	383	88.0	9.9	2.1
Secondary or higher	89	25.8	15.7	12.4	46.1	83.2	14.6	2.3	89	94.4	5.6	0.0
Parity	657								657			
0	274	28.8	12.0	6.6	52.6	72.6	25.6	1.8	274	85.4	11.7	2.9
1	102	23.5	7.8	14.7	53.9	83.3	15.7	1.0	102	87.3	10.8	2.0
2	110	30.9	16.4	12.7	40.0	84.6	15.5	0.0	110	91.8	4.6	3.6
3	66	24.2	7.6	7.6	60.6	81.8	18.2	0.0	66	92.4	3.0	4.6
4+	105	33.3	6.7	7.6	52.4	80.0	17.1	2.9	105	86.7	9.5	3.8
Income	658								658			
Less than 1,500	61	42.6	11.5	3.3	42.6	72.1	26.2	1.6	61	83.6	9.8	6.6
1,501-4,000	102	26.5	10.8	9.8	52.9	84.3	14.7	1.0	102	88.2	6.9	4.9
4,001-9,000	148	25.0	16.9	10.1	48.0	75.7	23.0	1.4	148	84.5	12.2	3.4
9,001-20,000	137	28.5	6.6	13.1	51.8	80.3	19.0	0.7	137	89.8	8.8	1.5
20,001-40,000	140	30.7	8.6	9.3	51.4	74.3	23.6	2.1	140	90.7	7.1	2.1
Greater than 40,000	70	22.9	10.0	2.9	64.3	85.7	12.9	1.4	70	87.1	10.0	2.9

Table 6.2b. Percent Distribution of STI and HIV Risk Perception Variables by Selected Background Characteristics for Women

Women	Perceived HIV Risk			Know Someone With/Who Died With Aids			Possible for a Healthy-Looking Person To Have AIDS						
	n	Small	Moderate	Great	No Risk	n	Yes	No	Don't Know	n	Yes	No	Don't Know
Total	939	23.1	13.4	12.1	51.4	939	69.3	27.7	3.0	939	65.4	22.6	12.0
Age Group	931					933				929			
15-19	208	19.2	12.5	6.3	62.0	208	65.4	31.3	3.4	208	57.2	24.5	18.3
20-24	261	24.9	14.2	13.4	47.5	263	69.6	28.5	1.9	262	67.9	22.1	9.9
25-29	280	23.2	15.4	13.9	47.5	280	70.4	26.1	3.6	278	71.9	19.8	8.3
30-34	182	24.7	13.2	13.7	48.4	182	72.5	24.2	3.3	181	61.9	26.0	12.2
Education	932					934				930			
None	445	24.5	12.4	11.2	51.9	445	69.2	27.6	3.2	442	60.0	26.2	13.8
Primary	451	21.7	15.5	12.4	50.3	452	68.4	28.8	2.9	451	68.5	20.8	10.6
Secondary or higher	36	22.2	13.9	16.7	47.2	37	83.8	13.5	2.7	37	94.6	2.7	2.7
Parity	932					934				930			
0	176	21.0	10.2	6.8	61.9	176	62.5	33.0	4.6	176	60.8	19.3	19.9
1	220	22.3	16.4	11.4	50.0	221	72.4	25.8	1.8	219	60.3	27.9	11.9
2	196	22.5	13.3	14.3	50.0	196	66.3	32.1	1.5	195	67.7	23.6	8.7
3	141	25.5	14.2	14.2.1	46.1	142	71.1	26.1	2.8	142	73.9	17.6	8.5
4+	199	24.6	15.1	13.6	46.7	199	73.9	21.6	4.5	198	67.2	22.7	10.1
Income	935					937				933			
Less than 1,500	111	21.6	9.9	13.5	55.0	112	68.8	29.5	1.8	112	59.8	22.3	17.9
1,501-4,000	167	17.4	12.6	13.2	56.9	167	74.3	23.4	2.4	166	63.3	27.7	9.0
4,001-9,000	195	21.0	16.9	9.2	52.8	196	70.9	26.5	2.6	196	60.7	26.0	13.3
9,001-20,000	202	27.2	16.3	9.9	46.5	202	67.8	28.7	3.5	202	71.8	16.8	11.4
20,001-40,000	185	23.8	15.7	12.4	48.1	185	67.0	29.2	3.8	182	67.6	22.5	9.9
Greater than 40,000	75	30.7	5.3	18.7	45.3	75	65.3	30.7	4.0	75	69.3	20.0	10.7

Table 6.3. Percent Distribution of Knowledge of Two Main STI Symptoms by Selected Background Characteristics of Men and Women

Variable	Female Symptom		Male Symptom		Female Symptom		Male Symptom	
	Difficulty Walking		Difficulty Walking		Weight Loss		Weight Loss	
	n	% mentioned	n	% mentioned	n	% mentioned	n	% mentioned
Men	652	56.4	652	62.9	652	31.0	652	31.8
Age Group	644		644		644		644	
20-24	221	50.7	221	55.7	221	36.7	221	38.5
25-29	164	59.2	164	64.6	164	32.3	164	29.9
30-34	103	56.3	103	64.1	103	28.2	103	31.1
35-39	89	62.9	89	68.5	89	23.6	89	25.8
40-44	67	56.7	67	70.2	67	20.9	67	20.9
Education	648		648		648		648	
None	180	57.8	180	65.0	180	23.9	180	21.7
Primary	380	56.8	380	63.2	380	33.2	380	35.8
Secondary or higher	88	50.0	88	55.7	88	35.2	88	35.2
Women	938	47.2	938	44.8	938	57.8	938	55.4
Age Group	932		932		932		932	
15-19	205	40.0	205	37.6	205	56.6	205	54.6
20-24	263	52.1	263	48.3	263	60.5	263	57.8
25-29	281	49.5	281	47.3	281	59.1	281	58.0
30-34	183	45.4	183	43.7	183	53.6	183	48.6
Education	933		933		933		933	
None	447	49.0	447	48.6	447	54.1	447	50.8
Primary	449	46.3	449	41.9	449	61.5	449	60.1
Secondary or higher	37	37.8	37	32.4	37	56.8	37	51.4

Table 6.4a Percent Distribution of Knowledge of STI and HIV Avoidance Behaviors by Selected Background Characteristics for Men

Men	STI						HIV					
	Abstinence		Use Condom		Have Only One Partner		Abstinence		Use Condom		Have Only One Partner	
	n	% Mentioned	n	% Mentioned	n	% Mentioned	n	% Mentioned	n	% Mentioned	n	% Mentioned
Total	652	60.0	652	58.4	652	19.6	633	60.4	633	70.5	633	46.3
Age group	644		644		644		626		626		626	
20-24	221	50.7	221	67.9	221	15.4	216	62.5	216	79.6	216	36.6
25-29	164	63.4	164	58.5	164	18.9	159	59.8	159	64.8	159	44.0
30-34	103	68.0	103	52.4	103	22.3	99	53.5	99	74.8	99	52.5
35-39	89	67.4	89	47.2	89	28.1	86	64.0	86	60.5	86	60.5
40-44	67	61.2	67	50.8	67	19.4	66	60.6	66	59.1	66	56.1
Education	648		648		648		629		629		629	
None	180	68.3	180	42.2	180	18.9	170	62.9	170	65.3	170	50.0
Primary	380	57.4	380	61.1	380	17.9	370	56.0	370	71.1	370	45.4
Secondary or higher	88	54.6	88	79.6	88	28.4	89	74.2	89	77.5	89	42.7
Parity	649		649		649		630		630		630	
0	272	54.8	272	66.9	272	17.7	263	61.6	263	79.5	263	35.7
1	102	60.8	102	56.9	102	21.6	98	55.1	98	71.4	98	51.0
2	108	65.7	108	50.9	108	21.3	107	58.9	107	60.8	107	55.1
3	65	66.2	65	49.2	65	18.5	62	71.0	62	59.7	62	53.2
4+	102	63.7	102	51.0	102	21.6	100	57.0	100	62.0	100	56.0
Income	650		650		650		631		631		631	
Less than 1,500	57	52.6	57	56.1	57	21.1	56	48.2	56	67.9	56	37.5
1,501-4,000	103	66.0	103	48.5	103	18.5	99	63.6	99	67.7	99	41.4
4,001-9,000	146	52.7	146	61.6	146	17.1	139	59.0	139	69.8	139	46.8
9,001-20,000	136	65.4	136	56.6	136	17.7	133	60.9	133	71.4	133	51.9
20,001-40,000	140	58.6	140	62.1	140	23.6	136	63.2	136	68.4	136	50.7
Greater than 40,000	68	64.7	68	64.7	68	22.1	68	61.8	68	79.4	68	39.7

Table 6.4b Percent Distribution of Knowledge of STI and HIV Avoidance Behaviors by Selected Background Characteristics for Women

Women	STI						HIV					
	Abstinence		Use Condom		Have Only One Partner		Abstinence		Use Condom		Have Only One Partner	
	n	% Mentioned	n	% Mentioned	n	% Mentioned	n	% Mentioned	n	% Mentioned	n	% Mentioned
Total	938	52.9	938	39.7	938	7.5	776	45.9	776	50.9	776	52.3
Age group	932		932		932		933		933		933	
15-19	205	46.8	205	37.1	205	4.4	208	36.1	208	40.9	208	27.9
20-24	263	55.1	263	44.9	263	8.4	263	39.9	263	46.8	263	43.4
25-29	281	54.5	281	40.2	281	10.7	280	37.5	280	39.6	280	52.1
30-34	183	53.6	183	34.4	183	4.4	182	36.3	182	40.7	182	47.8
Education	933		933		933		934		934		934	
None	447	53.5	447	32.0	447	7.6	445	37.1	445	35.1	445	48.1
Primary	449	52.3	449	44.3	449	7.6	452	36.3	452	45.4	452	39.4
Secondary or higher	37	51.4	37	78.4	37	2.7	37	62.2	37	89.2	37	35.1
Parity	933		933		933		934		934		934	
0	173	46.2	173	30.6	173	4.1	176	39.8	176	35.2	176	29.6
1	225	50.7	225	47.1	225	6.2	221	37.1	221	50.2	221	35.8
2	195	53.9	195	46.7	195	8.2	196	39.3	196	40.8	196	47.5
3	141	61.0	141	41.1	141	14.2	142	35.9	142	51.4	142	47.9
4+	199	54.3	199	31.7	199	6.0	199	36.2	199	34.2	199	56.8
Income	936		936		936		937		937		937	
Less than 1,500	111	50.5	111	29.7	111	6.3	112	33.9	112	35.7	112	44.6
1,501-4,000	166	57.2	166	40.4	166	9.0	167	36.5	167	40.1	167	46.7
4,001-9,000	196	52.0	196	38.8	196	10.2	196	38.8	196	44.4	196	41.8
9,001-20,000	203	50.7	203	41.4	203	6.4	202	38.6	202	45.1	202	42.1
20,001-40,000	186	50.0	186	41.9	186	5.9	185	37.8	185	37.3	185	42.7
Greater than 40,000	74	62.2	74	44.6	74	4.1	75	42.7	75	54.7	75	42.7

Table 6.5a Percent Distribution of Knowledge of Mother-to-Child HIV Transmission Means by Selected Background Variables for Men

Men	Mother-to-child		Pregnancy*		Delivery*		Breastfeeding*	
	n	% Mentioned	n	% Mentioned	n	% Mentioned	n	% Mentioned
Total	660	86.7	572	86.0	572	63.3	572	79.7
Age group	653		566		566		566	
20-24	225	82.2	185	85.4	185	64.3	185	76.2
25-29	166	89.2	148	86.5	148	70.3	148	85.1
30-34	103	87.4	90	87.8	90	55.6	90	70.0
35-39	91	91.2	83	85.5	83	63.9	83	86.8
40-44	68	88.2	60	85.0	60	55.0	60	81.7
Education	656		568		568		568	
None	184	79.9	147	85.0	147	64.0	147	85.0
Primary	383	87.7	336	86.3	336	64.0	336	81.0
Secondary or higher	89	95.5	85	85.9	85	58.8	85	64.7
Parity	657		569		569		569	
0	274	82.1	225	88.0	225	66.7	225	73.8
1	102	88.2	90	87.8	90	67.8	90	80.0
2	110	91.8	101	87.1	101	63.4	101	88.1
3	66	89.4	59	83.1	59	50.9	59	78.0
4+	105	89.5	94	79.8	94	58.5	94	85.1
Income	658		570		570		570	
Less than 1,500	61	82.0	50	74.0	50	54.0	50	90.0
1,501-4,000	102	81.4	83	89.2	83	56.6	83	78.3
4,001-9,000	148	85.1	126	82.5	126	54.8	126	82.5
9,001-20,000	137	89.1	122	88.5	122	65.6	122	80.3
20,001-40,000	140	87.9	123	88.6	123	69.9	123	76.4
Greater than 40,000	70	94.3	66	87.9	66	78.8	66	72.7

* Among men who are aware of mother-to-child transmission.

Table 6.5b Percent Distribution of Knowledge of Mother-to-Child HIV Transmission Means by Selected Background Variables for Women

Women	Mother-to-child		Pregnancy*		Delivery*		Breastfeeding*	
	n	% Mentioned	n	% Mentioned	n	% Mentioned	n	% Mentioned
Total	939	77.6	729	88.3	729	77.6	729	92.9
Age group	933		724		724		724	
15-19	208	68.3	142	88.0	142	74.7	142	88.0
20-24	263	77.6	204	87.3	204	74.5	204	93.6
25-29	280	82.1	230	89.6	230	78.7	230	93.5
30-34	182	81.3	148	87.8	148	83.1	148	95.3
Education	934		725		725		725	
None	445	72.4	322	87.6	322	81.4	322	93.8
Primary	452	81.2	367	88.6	367	74.9	367	92.4
Secondary or higher	37	97.3	36	91.7	36	72.2	36	88.9
Parity	934		725		725		725	
0	176	65.3	115	83.5	115	73.0	115	92.2
1	221	76.9	170	91.2	170	70.6	170	91.2
2	196	80.1	157	84.1	157	80.3	157	88.5
3	142	82.4	117	95.7	117	87.2	117	97.4
4+	199	83.4	166	87.4	166	78.9	166	95.8
Income	937		728		728		728	
Less than 1,500	112	73.2	82	93.9	82	79.3	82	93.9
1,501-4,000	167	74.9	125	84.0	125	76.8	125	92.0
4,001-9,000	196	72.5	142	86.6	142	79.6	142	92.3
9,001-20,000	202	84.7	171	88.3	171	78.4	171	93.6
20,001-40,000	185	79.5	147	88.4	147	73.5	147	93.9
Greater than 40,000	75	81.3	61	93.4	61	80.3	61	90.2

* Among women who are aware of mother-to-child transmission.

Chapter 7: Dual Risk and Dual Infection

Planned Status of Current Pregnancy

Table 7.1 shows the planned status of pregnancies of women currently pregnant. Categories for the selected background variables have been collapsed in order to accommodate the small number of reported pregnancies (n=129). About 93% of current pregnancies are wanted, although 23% occurred earlier than desired. Of the background variables presented in the table, age shows the least amount of differentiation. Women with no education have a higher percent of planned pregnancies and lower percent of mistimed pregnancies than the average. Women with any education have fewer planned pregnancies and more mistimed pregnancies. The percent of unwanted pregnancies is slightly higher for women with any education. Women at parity 0 have no unwanted pregnancies, compared to 15% of the women who already have four or more children. Women at parity 0 are also more likely to have planned and mistimed pregnancies than women with children. Pregnant women testing positive for gonorrhea or chlamydia (n=6) report either a planned pregnancy (five women) or an unwanted pregnancy (one woman). Women whose household income is 9,000 kwachas or less are less likely to have unwanted pregnancies, whereas women whose household income is 9,001 kwachas or more are almost twice as likely to report unwanted pregnancies as compared to the average.

Women's Dual Risk

Women are considered at risk of unwanted pregnancy and sexually transmitted infections if they do not want any more children, are not using an FP method, and

perceive themselves to be at moderate or great risk of contracting HIV. In Table 7.2, differentials in the components of dual risk are shown by selected background variables. Only 16% of sampled women do not want any more children, although there is much variation by background characteristic. Less than 5% of women ages 15-19 do not want more children, whereas over 33% of women aged 30-34 want to end childbearing. Women with no education are more likely to report wanting no more children than are those with any education. The effects of parity are much like those for age: only 1.5% of women at parity 0 do not want children while almost 40% of women with parity 4 or more want to end childbearing. Another source of variation is the presence of co-wives: 21% of women having at least one co-wife want to end childbearing, as compared to only about 14% of women who are not married or have no co-wives.

The pattern of current use of FP is somewhat different from that described above. One in five respondents report current use of a FP method. Women in the youngest (15-19) and oldest (30-34) age groups report lower use than the average. Women with secondary or higher education also report lower use. While women with no children are very unlikely to be using FP, use does not increase with parity — the same percentage of women are using FP at parity 1 as are those at parity 4 or more. Use seems to be less common for women at either end of the income spectrum — about 15% for those with household incomes less than 1,500 or over 40,000. Women who are not currently working also show slightly less current use. Finally, 24% of women with no co-wives use FP, as compared to 17% of

women with co-wives and 10.8% of women who are not married.

Overall, 25% of the sampled women state that they are at either moderate or great risk of contracting the HIV virus. Perceived risk is lowest for the youngest women, those with no education, and those at parity 0. Women with the highest level of household income report the highest level of being at great risk. Women involved in skilled/trade occupations also report higher than average moderate and great risk of HIV. Women who are married with no co-wives report the least amount of great risk (9%), followed by those not married (11%) and those with co-wives (18.9%).

modern method (15%), while for men the percentage is highest for those not wanting any more children (23.8%).

Modern Family Planning Use

The percent distribution of use of a modern FP method by selected background variables is shown in Table 7.3. Overall 10.4% of women and 11.1% of men report use of condoms, Depo-Provera, or birth control pills. Women who report having STI symptoms are more likely to report use (18%), while men who report STI symptoms are less likely to report use (8.7%). However, men receiving a positive gonorrhea (GC) test result are more than twice as likely to use modern FP as men who received a negative result. There is not much differentiation among women for either the GC or chlamydial (CT) test, nor among men for the CT test. Slightly more than 15% of women whose perceived risk of HIV infection is moderate use modern FP while only 8.9% of those whose perceived risk is great use a modern method. The pattern is different for men: 11.3% of those with a moderate risk perception and 25% of those with a great risk perception use a modern method. Among women, those who are unsure about whether to have more children are the most likely to report using a

Table 7.1 Percent Distribution of Planned Status of Current Pregnancy Among Women Currently Pregnant by Selected Background Variables

Characteristic	n	Planned	Mistimed	Unwanted
Total	129	69.0	23.3	7.7
Age				
24 and under	66	68.2	24.2	7.6
25 and over	63	69.8	22.2	7.9
Education				
None	73	74.0	19.2	6.8
Any	56	62.5	28.6	8.9
Parity				
0	37	73.0	27.0	0.0
1-3	72	66.7	23.6	9.7
4+	20	70.0	15.0	15.0
STI Result				
GC/CT Positive	6	83.3	0.0	16.7
GC/CT Negative	123	68.3	24.4	7.3
Income				
9,000 and under	75	73.3	24.0	2.7
9,001 and over	54	63.0	22.2	14.8

Table 7.2 Women's Dual Risk by Selected Background Variables

Variable	Wants More Children		Currently Uses FP		Perception of HIV Risk		
	n	No More	n	Yes	n	Moderate	Great
Total	1010	16.0	1015	20.5	937	13.4	12.1
Age Group							
15-19	233	4.7	233	16.3	208	12.5	6.3
20-24	284	7.4	287	24.0	261	14.2	13.4
25-29	295	21.7	298	21.5	280	15.4	13.9
30-34	196	33.2	196	18.9	182	13.2	13.7
Education							
None	480	20.0	485	19.6	445	12.4	11.2
Primary	490	12.2	491	21.8	451	15.5	12.4
Secondary or higher	39	15.4	39	15.4	36	13.9	16.7
Parity							
0	206	1.5	208	4.8	176	10.2	6.8
1	243	7.0	243	27.6	220	16.4	11.4
2	206	11.2	207	18.8	196	13.3	14.3
3	146	24.7	149	23.5	141	14.2	14.2
4+	208	39.9	208	27.4	199	15.1	13.6
Income							
Less than 1,500	119	14.3	119	15.1	111	9.9	13.5
1,500-4,000	177	15.3	178	26.4	167	12.6	13.2
4,001-9,000	214	16.8	216	21.8	195	16.9	9.2
9,001-20,000	214	13.6	213	20.2	203	16.3	9.9
20,001-40,000	203	18.2	206	19.4	186	15.6	12.9
Greater than 40,000	83	19.3	83	15.7	75	5.3	18.7
Occupation							
Farm	624	15.9	629	20.0	574	12.7	12.4
Skilled/Trade	211	16.6	212	23.6	199	16.6	14.6
Not currently working	171	14.6	171	18.1	156	15.4	7.1
Co-Wives							
Not married	222	14.9	223	10.8	199	13.4	11.1
No co-wives	514	14.4	517	24.0	476	14.3	9.0
Has co-wives	217	21.2	219	17.8	206	14.6	18.9

Note: Some totals may not add to n shown due to missing cases.

Table 7.3 Percent of Women and Men Reporting Current Use of Modern Family Planning Method by Selected STI and Unwanted Pregnancy Risk Factors

Variable	n	Women*	n	Men**
Total	1020	10.4	742	11.1
Report STI Symptoms	939		652	
Yes	72	18.1	23	8.7
No	867	10.5	629	11.3
Gonorrhea Test	768		477	
Positive	27	11.1	29	24.1
Negative	741	11.9	448	12.3
Chlamydia Test	768		477	
Positive	38	10.5	29	13.8
Negative	730	11.9	448	13.0
Perceived HIV Risk	244		131	
Moderate	131	15.3	71	11.3
Great	113	8.9	60	25.0
Wants more children	932		510	
Yes	730	11.4	362	12.7
No	162	8.6	101	23.8
Don't Know	40	15.0	47	10.6

* Currently using pill, condom, or Depo-Provera

** Self or partner currently using pill, condom, or Depo-Provera

Chapter 8: Pregnancy and STI Status⁴

Specimen Provision

From Table 8.1, it is evident that women are more likely to provide urine specimens than men, 75.7% and 68.1%, respectively. While there was not any difference between the age groups in the percentage of women providing a urine specimen, for men specimen provision decreased with age. For both men and women, there was a linear relationship between level of education and willingness to provide a urine specimen. Parity and income appear not to be associated with whether men provided a urine specimen or not. However among women a linear relationship exists; those with higher parity and income were more likely to provide a urine specimen than those with low parity and income. Of the women who reported that they were pregnant during the survey, 69.2% provided a urine specimen, compared to 76.8% of the women who reported they were not pregnant.

Self-Reported and Tested Pregnancy Status

In Table 8.2, 13.4% of all women reported being pregnant and 12.5% of all women tested, tested positive for pregnancy. Note that not all women who answered the questionnaire consented to being tested (967 compared to 698).

Not surprisingly, older women were less likely to report pregnancy (9.2%) than younger women (15.6%), while the respective percentages testing pregnant were 9.6% and 13.8%. Similarly, higher parity women are less likely to report themselves

pregnant and test pregnant than younger women. Among women with secondary or higher education, only 13.9 % reported being pregnant while 31.3% of the women who provided urine specimen tested positive. However, women with secondary or higher education were more likely to be tested than women with less education, and the sample size is small. Among women with no education, 15.1% reported being pregnant as compared to 11.8% testing positive. By income, 17% of women with low income reported being pregnant while 18.4% tested positive. The trend is different for women with high income, with a slightly higher percentage (15.4%) reporting to be pregnant while 13.4% test positive.

From the same table it can also be seen that of the women testing positive to gonorrhoea (n=25), 8% had identified themselves as being pregnant, while 13.6% of the women who provided a urine specimen tested positive for pregnancy (n=25) . The trend was different for chlamydia. Of the women testing positive to chlamydia (n=37), 13.5% reported being pregnant while 5.9% of those who provided urine tested positive for pregnancy (n=34).

The percentage of women who test positive for pregnancy who also report they are pregnant is shown in the last column of Table 8.2. Overall, 41% of women who test positive for pregnancy also report that they are pregnant.

⁴ This chapter was contributed by Dr. George Mwale, Mangochi District Health Officer.

Self-Reported and Tested Sexually Transmitted Infections

Women and men were asked about the current presence of sexually transmitted infections and, if consenting, their urine specimens were tested for gonorrhea and chlamydia. As seen in Table 8.3a, of all women interviewed, 7.7% reported having STI symptoms and of all women providing a urine specimen, 3.5% tested positive for gonorrhea and 5% tested positive for chlamydia. These tested levels are within the range of levels observed for urban antenatal clinic attendees in Lilongwe and Blantyre.

The proportions of respondents providing urine specimens testing positive for gonorrhea were lower than the proportions testing positive for chlamydia, regardless of STI symptom reporting, age group, or education. However, among pregnant women, interestingly the reverse is true: those providing urine specimens were more likely to test positive for gonorrhea (3.6%) than for chlamydia (2.4%).

Women who reported STI symptoms and provided a urine specimen were less likely to test positive for gonorrhea and chlamydia, 1.6% and 3.1% respectively, than women who did not report STI symptoms, where 3.8% tested positive for gonorrhea and 5.0% tested positive for chlamydia. This difference could be due to the fact that STIs are frequently asymptomatic in women and sample sizes are small for women reporting symptoms.

As seen in Table 8.3b, of all men interviewed, 3.5% reported having STI symptoms currently, and of all men providing a urine specimen, there was an equal chance for the specimen to test positive for gonorrhea or chlamydia.

Urine specimens from men with secondary or higher education were more likely to test positive for gonorrhea (8.9%) than were specimens from men with no education (6.7%). Uneducated men tested positive more frequently for chlamydia (9.2%) than men with secondary or higher education (5.1%) did.

Of the 21 men reporting STI symptoms, 9.5% (n=2) tested positive for gonorrhea but none tested positive for chlamydia. Of those not reporting symptoms, there was a near equal chance among those providing urine for testing to be infected with gonorrhea (6.2%) or chlamydia (6.5%).

Table 8.1 Percent of Male and Female Respondents Providing Urine Specimen by Selected Background Characteristics

Variable	Men		Women	
	Provided Specimen		Provided Specimen	
	n	Yes	n	Yes
Total	742	68.1	1020	75.7
Age group	733		1014	
15-19		NA	233	76.0
20-24	244	74.6	287	76.0
25-29	182	67.0	298	75.2
30-34	121	66.9	196	76.0
35-39	103	65.0		NA
40-44	83	57.8		NA
Education	738		1015	
None	219	58.0	485	72.0
Primary	425	69.2	491	78.4
Secondary or higher	94	88.3	39	89.7
Parity	739		1015	
0	304	70.1	208	73.1
1	119	66.4	243	73.3
2	122	70.5	207	73.9
3	68	67.6	149	77.2
4+	126	63.5	208	82.2
Currently Pregnant			953	
Yes			130	69.2
No		na	823	76.8
Income	742		1020	
Less than 1,500	75	57.0	119	74.8
1,501-4,000	113	74.3	179	78.2
4,001-9,000	166	72.9	216	76.0
9,001-20,000	151	64.2	215	74.4
20,001-40,000	162	68.5	208	69.7
Greater than 40,000	75	65.3	83	89.2

Table 8.2 Percent of Women Reporting Themselves Pregnant and Tested Pregnancy Status by Selected Background Characteristics

Variable	n	Reporting Pregnant	n	Testing Pregnant	% of Women Testing Pregnant Who Both Report and Test as Pregnant
Total	967	13.4	698	12.5	41.0
Age group	965		696		
15-19	192	15.6	152	13.8	36.8
20-24	281	13.2	202	11.9	52.2
25-29	296	15.2	207	13.5	46.4
30-34	196	9.2	135	9.6	15.4
Education	966		696		
None	476	15.1	322	11.8	39.5
Primary	454	11.7	342	11.1	45.7
Secondary or higher	36	13.9	32	31.3	30.0
Parity	966		696		
0	163	22.7	131	16.0	44.4
1	242	13.6	167	12.0	55.0
2	206	11.7	138	12.3	52.9
3	147	10.9	105	11.4	25.0
4+	208	9.6	155	10.3	18.8
Income	967		698		
Less than 1,500	112	17.0	76	18.4	53.8
1,501-4,000	170	14.7	118	11.0	58.3
4,001-9,000	208	14.9	143	9.8	35.7
9,001-20,000	204	9.8	153	11.8	17.6
20,001-40,000	195	11.8	141	12.8	38.9
Greater than 40,000	78	15.4	67	13.4	55.6
Positive GC Test	25	8.0	22	13.6	66.7
Postive CT Test	37	13.5	34	5.9	0.0

Table 8.3a Percent of Women Self-Reporting with STI Symptoms and Testing Positive by Selected Background Characteristics

Variable	n	% Reporting STI Symptoms*	n	% Testing Positive for Gonorrhea	n	% Testing Positive for Chlamydia
Women	939	7.7	768	3.5	768	5.0
Age group	933		763		763	
15-19	206	10.2	168	2.4	168	5.4
20-24	263	7.2	222	4.5	222	5.4
25-29	281	7.5	228	3.5	228	3.9
30-34	183	6.0	145	3.4	145	5.5
Education	934		764		764	
None	447	5.1	356	2.8	356	5.1
Primary	450	9.6	373	4.3	373	4.8
Secondary or higher	37	16.2	35	2.9	35	5.7
Parity	934		764		764	
0	174	11.5	143	2.8	143	6.3
1	225	7.1	184	1.6	184	7.1
2	195	8.2	154	5.2	154	2.6
3	141	5.0	114	5.3	114	5.3
4+	199	6.5	169	3.6	169	3.6
Currently Pregnant	682		692		692	
Yes	84	6.0	84	3.6	84	2.4
No	598	9.2	608	3.1	608	5.3
STI Symptoms			743		743	
Symptoms reported		--	64	1.6	64	3.1
No symptoms reported		--	679	3.8	679	5.0
Income	939		768		768	
Less than 1,500	111	10.8	86	1.2	86	5.8
1,501-4,000	167	5.4	134	2.2	134	4.5
4,001-9,000	196	9.2	160	3.8	160	3.1
9,001-20,000	204	6.4	160	5.0	160	5.6
20,001-40,000	187	7.5	154	5.2	154	5.8
Greater than 40,000	74	8.1	74	1.4	74	5.4

* Symptoms include genital itching, redness/inflammation of genitals, burning pain on urination, genital warts, genital sores and/or ulcers, foul-smelling discharge and/or lower abdominal pain

Table 8.3b Percent of Men Self-Reporting with STI symptoms and Testing Positive by Selected Background Characteristics

Variable	n	% Reporting STI Symptoms*	n	% Testing Positive for Gonorrhea	n	% Testing Positive for Chlamydia
Men	652	3.5	477	6.1	477	6.1
Age group	644		472		472	
20-24	221	4.1	174	5.7	174	6.3
25-29	164	3.0	116	2.6	116	9.5
30-34	103	3.9	75	10.7	75	5.3
35-39	89	2.8	61	6.6	61	4.9
40-44	67	1.5	46	8.7	46	0.0
Education	648		476		476	
None	180	2.8	119	6.7	119	9.2
Primary	380	4.7	278	5.0	278	5.0
Secondary or higher	88	0.0	79	8.9	79	5.1
Parity	649		476		476	
0	272	5.9	205	5.4	205	4.9
1	102	2.9	74	5.4	74	5.4
2	108	2.8	81	6.2	81	8.6
3	65	0.0	44	9.1	44	11.4
4+	102	0.9	72	6.9	72	4.2
STI Symptoms			455		455	
Symptoms reported			21	9.5	21	0.0
No symptoms reported			434	6.2	434	6.5
Income	652		477		477	
Less than 1,500	59	1.7	38	7.9	38	13.2
1,501-4,000	103	6.8	75	8.0	75	5.3
4,001-9,000	146	4.1	114	5.3	114	5.3
9,001-20,000	136	3.7	92	2.2	92	3.3
20,001-40,000	140	2.1	109	7.3	109	9.2
Greater than 40,000	68	1.5	49	8.2	49	2.0

* Symptoms include genital itching, redness/inflammation of genitals, burning pain on urination, genital warts, genital sores and/or ulcers, foul-smelling discharge and/or lower abdominal pain

Chapter 9: Family Planning and STI/HIV Service Preferences

First Source of Family Planning, STI, and HIV Knowledge

The first source of FP, STI, and HIV knowledge is shown in Table 9.1. The table indicates that there are striking differences between men and women in their knowledge sources. For FP, 59% of women learned from a health facility worker whereas 17.5% of men did. For HIV knowledge, the most common responses from women are the media (31.2%) and health workers (26%), for men they are the media (58.3%) and male friends (14.2%). Friends and relatives play important roles as information sources for STIs for both men and women.

The impact of the media as a first source of FP knowledge varied according to women's background characteristics. Young women and those at parity 0 were much more likely to hear about FP from friends, relatives or the media than older, parous women were. Respondents whose household income was 40,000 kwachas or greater and those with at least a secondary level of education were also much more likely to report the media as a first source of knowledge. There was much less variation for the role of the media among men.

As a first source of STI knowledge, teachers play an important role for the youngest men and women, those with at least a secondary education, and those at parity 0, although friends and relatives have the highest percentages for nearly all age, education and parity groups. Health workers remain an important source of STI knowledge for women. One-fifth of women in the 30–34 age category, women with no education, and women with at least three children report

this source. Few men at any age, education, or parity reported health workers as a first source of knowledge of STIs.

As a first source of HIV knowledge, teachers show the same pattern of response as for STIs. Women also report health workers as a first source of HIV knowledge in the same pattern as for STI knowledge, although even more so (accounting for over 30% of responses among the background categories noted above). The role of the media is more prominent for HIV knowledge compared to those for STI knowledge. Interestingly, older men and women report the media as a first source more often than the younger respondents (who are more likely to report teachers or relatives). Almost 50% of women in the highest income category reported the media as a first source of HIV knowledge (compared to about one-third of women in other income categories).

Barriers to the Use of Family Planning, STI, and HIV Services

Family Planning

As shown in Table 9.2, over one-third of women (35.9%) and almost one-half of men (45.3%) not currently using any method of FP state that they intend to use FP within the next six months. Among the barriers to use given by female respondents, not being married and wanting more children are the most often cited. Not being married was particularly relevant for women age 15–19, those with at least secondary level of education, and those at parity 0. Around 15% of women aged 30–34 and 13.6% of women with co-wives reported no need

(compared to the average of 8.2%). Few women reported a lack of knowledge, opposition to FP, or fear about harmful side effects as a barrier to use. However, older women, those with no education, and those at parity 4+ were more likely to cite these as barriers. A fairly large percentage of women (13%) did not know any barriers or did not provide a reason.

Almost 50% of men report that they do not have a need for FP (because they are not sexually active, not married, or want more children). Overall opposition to FP is slightly lower than for females, and is the highest for older men, those with little or no education, those at the highest level of parity, and those with the lowest levels of income. Less than 3% of men report that a lack of knowledge/access or the fear of harmful side effects are barriers to the use of FP.

STI Treatment

A large proportion of men (58.4%) and women (67.8%) report no barriers to STI treatment. The proportion is particularly high for women with no education (75.3%). Among those perceiving barriers to treatment, embarrassment is a common response for both women (12.2%) and men (15.4%). Embarrassment is mentioned more often as education increases; about 36% of women and 27% of men with at least secondary education report it as a barrier. Quality of care is mentioned by 8.4% of women. However, it is mentioned more often by older women, those with secondary level education, four or more children, and lower household incomes. Conversely, young men are more likely to mention quality as a barrier, in addition to those at higher levels of education and parity. Access is mentioned as a barrier by 14.4% of men and 9% of women. Among men, it is more commonly mentioned by the

youngest age group, those with secondary education, and those with no children. Among women, access is most commonly cited as a barrier by those with secondary education and those involved with trade occupations.

HIV Testing

Slightly more than half of the sample population report no barriers to HIV testing. Among the barriers mentioned by women, fear is cited the most often (18.2%), especially among women who are younger, more educated or employed in farm occupations. Fear is cited by 14.1% of men, and is especially high among men with at least secondary level education (26.8%). 15% of women report no perceived need for a test or that they had already been tested, while 8.1% of men report no perceived need for the test. Embarrassment is mentioned as a barrier by men more often than it is by women (6.7% vs. 2.0%). Among men, the percent mentioning embarrassment is noticeably higher for older men and those with the highest level of household income, while for women it is those with secondary education and the highest level of household income. Access is also mentioned as a barrier more often by men (10.3%) than by women (4.2%). Quality of care and lack of knowledge are mentioned very infrequently by both men and women.

Preferred Family Planning and STI Information Sources

As seen in Table 9.3, the two sources for FP information that sexually active men and women mention most often are health worker and doctor/nurse/midwife. Together these sources account for about 82% of responses. For women, doctors, nurses, and/or midwives are mentioned the most often overall, but especially by women who are educated, at higher parities and incomes,

who are not currently working or who have co-wives. In addition, over 20% of women aged 15–19 and those at parity 0 mention personal sources, such as friends, relatives or partners as preferred sources. For men, the most common response is health worker, with no clear patterns of differentiation by background characteristics. Overall, 8% of men mention personal sources, though it was higher among young men and those with no education. The “other” category accounts for 10.3% of all male responses, but over 25% of responses by men at the lowest income category.

Also shown in Table 9.3, almost 80% of men and 64% of women would prefer to receive information on STIs from doctors or nurses. For both sexes, the likelihood that respondents mention doctors or nurses increases with education. For women, the proportion mentioning doctors or nurses is also high for those whose household income is over 40,000 kwachas, those who are not currently working, and those not married. For men, the percentage reporting doctors or nurses seems to increase with household income. Women are much more likely than men are to prefer health workers as a source of information (27.4% compared to 6.4%). The percent decreases with level of education, but shows no other clear pattern of differentiation, although the percentage is highest among women involved with skilled labor. Traditional healers are mentioned as a preferred source for STI information more often by men and women without any formal education and by those from the poorest households. Young women are also more likely than the average to prefer traditional healers as a source of information.

Preferred Family Planning, STI, and HIV Service Sites

Women mention government hospitals most often as the preferred source for FP services. The proportion decreases with age and parity, but is high for women with a household income greater than 40,000 kwachas and for those not currently working. Health centers are mentioned by almost 30% of women, and is more commonly reported by older women, those with no education, and those at parity 4+. Men are most likely to prefer health workers (47.8%) and doctors/nurses/midwives (34.3%). The men most likely to prefer health workers are in skilled labor or have three children. Personal sources account for 7.3% of total responses, but reach over 10% for various background factors (such as for the 20-24 year old age group, those with no education, and those in skilled labor occupations). The “other” category accounts for over 25% of responses for men whose income is in the lowest category.

Slightly less than 70% of women prefer government or mission hospitals for STI treatment and HIV testing services. The percentage is highest for women with at least a secondary level education (reaching almost 90%), those with the highest level of household income, and those involved with skilled labor or trade. For STI treatment services, women who are not currently working are also more likely to prefer hospitals. Health centers are the second most common response, accounting for about one-fourth of the total. Health centers are most commonly preferred among women aged 30-34, those with no education, at parity 4+, or who are involved with farming as an occupation. In addition, women with co-wives are more likely than average to prefer health centers as a source for HIV testing. Women age 15-19 are the most likely to respond that they prefer

traditional healers for STI treatment. The private sector was the third most commonly given response for HIV testing, but accounts for little over 2% of the total.

Most men prefer government or mission hospitals as the source for STI services (78.1%) and HIV testing services (84.4%). Those most likely to prefer hospitals for STI treatment are young, have secondary or higher education, have the highest levels of household income, or are involved with skilled labor or trade. This is not the case for HIV testing services. For HIV testing, those most likely to prefer hospitals are older, have no education, are involved with farm labor, or have two or more wives. Health centers account for 15% of stated STI service preferences but only 3.6% of HIV testing preferences. Traditional healers are mentioned for STI treatment most often by men with no education, those from households earning between 1,500 kwachas and 4,000 kwachas, those at parity 3, or those involved with farm labor. Banja La Mtsogolo is mentioned as a preferred source for HIV testing by 6.1% of men, but most often by men involved with trade or those whose household income is less than 1,500 kwachas. The private sector is also mentioned by men as a source for HIV testing, but accounts for only 2.3% of the total.

Table 9.1a Percent of Men Reporting First Source of FP, STI and HIV Knowledge by Selected Background Variables

Variable	First Source of FP Knowledge							First Source of STI Knowledge							First Source of HIV Knowledge						
	n	Health Facility	Health Worker	Health Outreach Worker*	Friends/Relatives	Media/Dramas	Teacher/Other	n	Health Worker	Relative	Same-sex friend	Media	Teacher	Other**	n	Health Worker	Relative	Same-sex friend	Media	Teacher	Other**
Men	739	17.5	11.9	11.1	54.4	5.1	652	4.6	38.8	28.4	20.4	5.1	2.8	660	8.2	13.3	14.2	58.3	3.9	2.0	
Age Group	733						644							653							
20-24	244	17.2	13.5	12.3	49.6	7.4	221	7.2	30.3	29.9	22.6	8.1	1.8	225	8.9	20.0	17.8	42.2	7.6	3.6	
25-29	182	18.1	10.4	11.5	55.0	5.0	164	1.8	40.9	23.8	25.0	4.9	3.7	166	3.6	11.5	13.9	64.5	4.2	2.4	
30-34	121	14.1	7.4	16.5	59.5	2.3	103	6.8	42.7	27.2	18.5	1.9	2.9	103	11.7	11.7	11.7	63.1	1.9	0.0	
35-39	103	14.6	13.6	5.8	61.2	4.9	89	3.4	42.7	30.3	14.6	5.6	3.4	91	7.7	5.5	12.1	73.6	0.0	1.1	
40-44	83	25.3	14.5	6.0	51.8	2.4	67	0.0	52.2	34.3	10.5	0.0	3.0	68	11.8	10.3	10.3	67.7	0.0	0.0	
Education	738						648							656							
None	219	15.5	10.5	10.5	58.5	5.0	180	2.2	42.2	30.0	20.0	0.6	5.0	184	6.5	11.4	17.4	62.5	0.0	2.2	
Primary	425	18.1	12.2	12.2	51.8	5.9	380	5.5	39.2	29.0	20.5	4.0	1.8	383	7.3	14.9	13.8	59.3	2.9	1.8	
Secondary or higher	94	19.2	12.8	12.8	57.5	2.1	88	4.6	30.7	22.7	20.5	19.3	2.3	89	14.6	11.2	10.1	44.9	16.9	2.3	
Parity	739						649							657							
0	304	13.8	13.8	10.2	53.0	9.2	272	5.2	31.3	31.6	22.8	7.0	2.2	274	6.6	19.3	17.2	48.2	5.8	2.9	
1	119	21.0	12.6	13.5	51.3	1.7	102	3.9	33.3	32.4	23.5	3.9	2.9	102	5.9	10.8	16.7	59.8	3.9	2.9	
2	122	21.3	9.8	13.1	52.5	3.3	108	3.7	50.0	21.3	18.5	3.7	2.8	110	11.8	7.3	8.2	68.2	2.7	1.8	
3	68	17.7	10.3	7.4	61.8	2.9	65	3.1	44.6	23.1	15.4	7.7	6.2	66	7.6	4.6	15.2	68.2	4.6	0.0	
4+	126	19.1	9.5	11.1	58.7	1.6	102	4.9	49.0	27.5	15.7	1.0	2.0	105	10.5	12.4	10.5	66.7	0.0	0.0	
Income	739						650							658							
Less than 1,500	73	16.4	11.0	15.1	50.7	6.9	57	3.5	38.6	26.3	22.8	5.3	3.5	61	4.9	8.2	24.6	57.4	0.0	4.9	
1,500-4,000	113	23.0	14.2	8.9	52.2	1.8	103	6.8	35.9	32.0	15.5	4.9	4.9	102	13.7	9.8	13.7	59.8	2.0	1.0	
4,001-9,000	166	15.7	8.4	11.5	59.6	4.8	146	6.2	38.4	26.7	23.3	3.4	2.1	148	8.1	20.3	12.8	54.1	3.4	1.4	
9,001-20,000	150	16.0	11.3	10.7	55.3	6.7	136	3.7	37.5	30.2	22.1	5.2	1.5	137	9.5	9.5	11.7	62.8	4.4	2.2	
20,001-40,000	162	17.3	13.0	13.0	53.1	3.7	140	4.3	41.4	26.4	19.3	5.7	2.9	140	7.1	12.1	13.6	60.0	5.0	2.1	
Greater than 40,000	75	17.3	16.0	6.7	50.7	9.3	68	1.5	41.2	29.4	17.7	7.4	2.9	70	2.9	18.6	15.7	52.9	8.6	1.4	

*Includes community health worker, field worker, and nankungwi

** Includes other and don't remember

Table 9.1b Percent of Women Reporting First Source of FP, STI and HIV Knowledge by Selected Background Variables

Variable	First Source of FP Knowledge										First Source of STI Knowledge										First Source of HIV Knowledge									
	n	Health Facility Worker	Health Outreach Worker*	Friends/Relatives	Media/ Dramas	Teacher/ Other	n	Health Worker	Relative	Same-sex friend	Media	Teacher	Other**	n	Health Worker	Relative	Same-sex friend	Media	Teacher	Other**	n	Health Worker	Relative	Same-sex friend	Media	Teacher	Other**			
Women	960	59.0	9.5	14.5	15.1	2.0	1004	15.4	30.8	26.2	11.9	4.1	11.7	939	26.0	13.6	22.8	31.2	4.2	2.2	939	26.0	13.6	22.8	31.2	4.2	2.2			
Age Group	959						998						933								933									
15-19	198	33.8	7.6	30.3	23.2	5.1	224	6.7	33.0	19.6	15.6	11.2	13.8	208	15.4	17.8	22.1	31.7	11.1	1.9	208	15.4	17.8	22.1	31.7	11.1	1.9			
20-24	278	64.7	9.7	11.9	11.9	1.8	282	14.9	33.7	28.0	8.9	3.2	11.4	263	25.9	14.8	26.2	27.4	3.4	2.3	263	25.9	14.8	26.2	27.4	3.4	2.3			
25-29	292	64.4	10.6	9.6	14.4	1.1	297	19.2	29.0	26.9	12.1	1.7	11.1	280	27.9	11.4	21.1	33.2	2.5	3.9	280	27.9	11.4	21.1	33.2	2.5	3.9			
30-34	191	58.9	9.5	14.5	15.1	2.0	195	21.0	27.2	29.2	11.3	1.0	10.3	182	36.3	10.4	20.3	33.0	0.0	0.0	182	36.3	10.4	20.3	33.0	0.0	0.0			
Education	960						999						934								934									
None	459	66.0	9.2	12.4	10.2	2.2	475	20.6	28.8	30.3	10.1	0.2	9.9	445	31.0	12.6	25.2	28.5	0.2	2.5	445	31.0	12.6	25.2	28.5	0.2	2.5			
Primary	462	54.3	9.3	16.2	18.4	1.7	485	11.1	32.6	22.9	13.6	5.8	14.0	452	22.6	14.4	21.5	33.4	6.2	2.0	452	22.6	14.4	21.5	33.4	6.2	2.0			
Secondary or higher	39	30.8	15.4	18.0	33.3	2.6	39	7.7	33.3	12.8	10.3	30.8	5.1	37	10.8	16.2	8.1	35.1	27.0	2.7	37	10.8	16.2	8.1	35.1	27.0	2.7			
Parity	960						999						934								934									
0	172	23.8	7.6	29.1	34.3	5.2	198	5.1	28.8	19.7	16.7	11.6	18.2	176	9.7	18.8	21.6	34.7	13.6	1.7	176	9.7	18.8	21.6	34.7	13.6	1.7			
1	233	59.2	8.6	17.6	12.5	2.2	243	11.5	37.9	25.1	10.3	3.7	11.5	221	24.4	17.2	25.3	26.7	4.1	2.3	221	24.4	17.2	25.3	26.7	4.1	2.3			
2	203	67.0	9.9	12.3	8.9	2.0	205	18.5	30.7	27.3	10.7	2.0	10.7	196	28.6	13.8	21.9	30.6	2.0	3.1	196	28.6	13.8	21.9	30.6	2.0	3.1			
3	147	69.4	9.5	8.2	12.2	0.7	148	24.3	27.0	23.7	13.5	3.4	8.1	142	34.5	6.3	21.8	34.5	1.4	1.4	142	34.5	6.3	21.8	34.5	1.4	1.4			
4+	205	72.7	11.7	5.4	10.2	0.0	205	21.0	27.3	33.7	8.8	0.0	9.3	199	34.2	10.1	22.1	31.2	0.0	2.5	199	34.2	10.1	22.1	31.2	0.0	2.5			
Income	960						1004						937								937									
Less than 1,500	109	61.5	11.0	11.9	11.9	3.7	117	14.3	31.6	23.1	12.0	6.0	12.8	112	22.3	10.7	25.9	32.1	5.4	3.6	112	22.3	10.7	25.9	32.1	5.4	3.6			
1,500-4,000	168	54.2	9.5	19.6	13.7	3.0	174	13.8	33.3	28.7	10.9	2.9	10.3	167	24.0	13.8	27.0	31.7	1.8	1.8	167	24.0	13.8	27.0	31.7	1.8	1.8			
4,001-9,000	205	62.0	9.8	14.6	13.2	0.5	214	19.2	24.8	27.6	10.8	4.2	13.6	196	30.1	11.2	23.0	29.1	4.1	2.6	196	30.1	11.2	23.0	29.1	4.1	2.6			
9,001-20,000	202	64.4	5.9	14.4	12.9	2.5	214	16.8	31.8	25.2	12.6	4.7	8.9	202	29.7	13.4	21.3	28.2	5.0	2.5	202	29.7	13.4	21.3	28.2	5.0	2.5			
20,001-40,000	195	61.0	10.8	9.7	16.9	1.5	204	15.2	34.3	26.0	10.8	2.5	11.3	185	28.1	17.8	21.1	28.1	3.2	1.6	185	28.1	17.8	21.1	28.1	3.2	1.6			
Greater than 40,000	81	39.5	12.4	18.5	28.4	1.2	81	7.4	28.4	24.7	17.3	6.2	16.1	75	10.7	14.7	16.0	49.3	8.0	1.3	75	10.7	14.7	16.0	49.3	8.0	1.3			

*Includes community health worker, field worker, and nankungwi

** Includes other and don't remember

Table 9.2a. Percent Distribution of Barriers to the Use of FP, STI, and HIV Testing Services among Men by Selected Background Variables

Variable	Barriers to Family Planning Use*					Barriers to STI Treatment†					Barriers to HIV Testing‡											
	n	No Need	Opposed to FP	Lack Knowledge	Fear/Misc.	Intend to Use	n	Embarrassment	Quality of Care	Lack Knowledge	Access	No Barrier	n	Embarrassment	Quality of Care	Lack Knowledge	Access	Fear	No Barrier	No Perceived Need	No Cure	
Men	587	48.2	3.8	1.4	1.4	45.3	742	15.4	7.3	2.8	14.4	58.4	581	6.7	1.6	1.7	10.3	14.1	54.7	8.1	2.8	
Age Group	581					733							574									
20-24	203	66.0	2.0	1.5	0.0	30.5	244	16.4	8.6	3.3	19.3	56.2	203	9.4	2.0	2.5	7.4	13.3	56.7	6.4	2.5	
25-29	144	40.3	2.8	2.1	2.0	52.8	182	17.0	6.0	1.1	12.6	61.5	138	5.1	0.7	2.9	16.7	13.8	52.9	5.8	2.2	
30-34	93	35.5	6.5	1.1	1.1	55.9	121	15.7	8.3	5.0	11.6	57.0	92	3.3	3.3	0.0	7.6	16.3	52.2	12.0	5.4	
35-39	79	35.4	2.5	0.0	2.5	59.5	103	9.7	6.8	3.9	12.6	64.1	86	2.3	0.0	0.0	10.5	18.6	59.3	9.3	0.0	
40-44	62	43.6	8.1	1.6	3.2	43.6	83	14.5	4.8	1.2	8.4	53.0	55	10.9	1.8	0.0	10.9	7.3	52.7	10.9	5.5	
Educa- tion	584					738							577									
None	169	46.2	4.1	1.8	1.8	46.2	219	15.1	6.4	2.3	12.3	54.3	168	4.8	0.6	0.6	10.7	12.5	58.3	10.7	1.8	
Primary	335	47.2	4.1	1.2	1.5	46.0	425	12.9	7.1	2.6	14.4	61.2	338	7.1	2.1	2.1	10.7	12.1	54.1	8.0	3.9	
Secondary or higher	80	56.3	1.3	1.3	0.0	41.3	94	26.6	10.6	5.3	19.2	54.3	71	8.5	1.4	2.8	7.0	26.8	50.7	2.8	0.0	
Parity	585					739							578									
0	258	73.6	2.7	0.8	0.0	22.9	304	15.8	7.9	3.0	18.8	56.9	248	9.7	2.0	2.4	10.5	12.5	55.2	5.2	2.4	
1	86	32.6	5.8	2.3	2.3	56.9	111	19.3	6.7	0.8	12.6	54.6	85	4.7	1.2	3.5	10.6	14.1	58.8	5.9	1.2	
2	94	27.7	2.1	2.1	0.0	68.1	122	14.8	4.9	3.3	11.5	63.1	91	2.2	1.1	1.1	6.6	17.6	58.2	11.0	2.2	
3	54	24.1	1.9	0.0	5.6	68.5	68	10.3	4.4	2.9	13.2	69.1	61	1.6	0.0	0.0	14.8	9.8	55.7	13.1	4.9	
4+	93	26.9	7.5	2.2	3.2	60.2	126	13.5	10.3	4.0	8.0	54.8	93	7.5	2.2	0.0	10.8	17.2	46.2	11.8	4.3	
Income	587					742							581									
Less than 1,500	50	56.0	4.0	0.0	2.0	38.0	75	9.3	1.3	1.3	10.7	64.0	54	7.4	1.8	3.7	13.0	7.4	53.7	13.0	0.0	
1,500-4,000	95	44.2	7.4	2.1	1.1	45.3	113	14.2	5.3	7.1	15.0	54.0	88	8.0	3.4	2.3	4.6	11.4	50.0	18.2	2.3	
4,001-9,000	137	44.5	3.7	2.2	1.5	48.2	166	16.3	10.8	2.4	16.3	56.0	134	6.0	1.5	2.2	14.2	16.4	46.3	9.7	3.7	
9,001-20,000	118	45.8	2.5	0.9	0.9	50.0	151	13.3	5.3	3.3	13.3	64.2	123	3.3	0.0	1.6	10.6	12.2	63.4	5.7	3.3	
20,001-40,000	125	52.0	3.2	1.6	1.6	41.6	162	19.1	10.5	0.6	16.7	52.5	125	8.0	1.6	0.0	12.0	18.4	56.0	1.6	2.4	
Greater than 40,000	62	53.2	1.6	0.0	1.6	43.6	75	17.3	5.3	2.7	10.7	65.3	57	10.5	1.8	1.8	3.5	14.0	61.4	3.5	3.5	
Occupation§	412					536							410									
Farm	191	38.7	4.7	1.6	2.1	52.9	239	16.7	5.9	2.9	10.9	59.4	192	2.6	1.0	2.6	10.4	16.2	50.0	14.6	2.6	
Skilled Trade	99	50.5	4.0	1.0	2.0	42.4	131	6.9	8.4	1.5	8.4	60.3	92	5.4	2.2	2.2	12.0	12.0	59.8	5.4	1.1	
Two or more wives	122	41.8	5.7	2.5	1.6	48.4	166	17.5	5.4	1.8	16.3	58.4	126	8.7	1.6	0.8	8.7	14.3	55.6	4.0	6.4	
Marriage 	435					563							432									
One wife	360	39.4	5.0	1.1	1.7	52.8	464	16.8	7.8	3.5	13.2	57.8	358	6.4	1.1	0.8	10.1	15.9	53.6	8.9	3.1	
Two or more wives	75	33.3	4.0	2.7	2.7	57.3	99	11.1	5.1	1.0	12.1	61.6	74	2.7	1.4	2.7	13.5	11.1	54.1	12.2	2.7	

* Reported by men who are not using an FP method.

† Based on the full sample of responses to “if you thought you had an STI, what would be the main barrier to getting treatment.”

‡ Based on men who have heard of AIDS. The question asked is “What might keep you from getting tested for HIV/AIDS?”

§ Not currently working category is not included.

|| Not currently married category is not included.

Table 9.2b. Percent Distribution of Barriers to the Use of FP, STI, and HIV Testing Services among Women by Selected Background Variables

Variable	Barriers to Family Planning Use*										Barriers to STI Treatment†										Barriers to HIV Testing‡									
	Unmarried	Wants Children	No Need	Opposed to FP	Lack Knowledge	Fear/Misc.	Don't Know/No Reason	Intend To Use	Embarrassment	Quality of Care	Lack Knowledge	Access	No Barrier	n	Embarrassment	Quality of Care	Lack Knowledge	Access	Fear	No Barrier	No Perceived	Already Tested	Others							
Women	894	18.3	14.8	8.2	4.9	0.6	4.4	13.0	35.9	1020	12.2	8.4	1.8	9.0	67.8	956	2.0	1.2	2.3	4.2	18.2	53.7	8.1	6.9	3.6					
Age Group	888								1014							946														
15-19	203	35.5	11.8	3.0	3.0	0.5	1.0	13.8	31.5	233	10.7	6.4	2.6	6.4	65.2	214	3.7	1.4	1.9	4.7	19.2	53.3	7.5	4.2	4.2					
20-24	251	13.2	16.3	6.4	5.6	0.4	4.0	12.4	41.8	287	12.9	8.0	1.1	8.4	69.7	266	1.9	1.1	3.0	4.1	18.4	53.8	8.3	6.0	3.5					
25-29	260	12.3	18.1	9.6	5.4	0.4	6.5	12.3	35.4	298	12.8	8.4	1.3	11.1	69.1	282	1.4	0.7	1.4	3.9	16.7	55.7	8.9	7.8	3.8					
30-34	174	15.5	10.9	14.9	5.8	1.2	4.6	13.9	33.3	196	11.7	11.7	2.6	9.7	66.3	184	1.1	1.6	3.3	4.4	17.9	51.1	7.1	10.3	3.3					
Education	889									1015						947														
None	436	13.8	17.9	8.7	6.2	0.9	5.5	16.3	30.7	485	8.3	7.2	2.7	5.4	75.3	455	0.7	1.1	3.5	3.5	15.4	58.0	9.2	3.7	4.8					
Primary	420	22.4	12.4	7.9	3.6	0.2	3.1	9.7	41.0	491	14.3	9.6	1.0	11.6	62.3	455	3.1	1.3	1.3	4.8	19.6	51.0	7.3	9.2	2.5					
Secondary or higher	33	30.3	6.1	6.1	6.1	0.0	0.0	12.1	39.4	39	35.9	10.3	0.0	20.5	43.6	37	5.4	0.0	0.0	5.4	29.7	35.	2.7	18.9	2.7					
Parity	889									1015						947														
0	177	41.2	10.2	11.3	2.8	0.1	0.1	16.4	16.9	208	9.1	9.1	2.9	7.7	62.0	183	3.3	1.1	1.1	3.3	18.0	56.8	7.6	3.3	5.0					
1	213	12.7	19.7	8.9	3.8	0.5	3.3	12.7	38.5	243	11.9	8.2	0.8	7.4	68.3	224	3.1	0.5	1.3	4.9	19.2	48.2	8.0	10.7	3.1					
2	181	9.9	17.7	6.6	7.2	0.6	5.0	13.0	39.2	207	14.0	7.3	0.5	10.6	72.0	196	1.5	2.0	3.6	4.1	15.8	54.1	11.2	6.1	1.5					
3	127	15.8	17.3	6.3	6.3	0.0	3.9	11.0	39.4	149	16.1	8.7	1.3	8.7	65.8	142	0.7	1.4	2.1	2.8	19.0	59.2	4.9	6.3	3.5					
4+	191	13.6	8.9	7.3	5.2	1.1	7.9	11.0	45.0	208	11.1	11.1	3.4	10.6	70.2	202	1.0	1.0	3.5	5.5	17.8	53.0	7.4	7.4	3.5					
Income	894									1020						952														
Less than 1,500	107	23.4	15.9	9.4	4.7	0.0	2.8	11.2	32.7	119	16.8	13.5	0.8	12.6	58.0	113	0.9	0.9	2.7	8.0	20.4	53.1	7.1	6.2	0.9					
1,500-4,000	159	16.4	17.0	7.6	7.6	0.6	3.8	12.0	35.2	179	7.3	8.9	1.7	5.6	77.6	170	1.2	0.0	1.2	1.8	14.7	61.2	10.0	4.7	5.4					
4,001-9,000	192	15.6	13.0	6.8	5.2	0.5	5.2	15.2	38.5	216	9.3	9.7	0.9	9.7	65.3	198	2.5	3.0	4.0	5.6	21.7	49.5	7.1	4.0	2.5					
9,001-20,000	190	17.4	16.3	12.1	4.2	1.1	4.2	9.4	35.3	215	11.5	8.8	2.8	10.7	68.8	205	1.5	0.5	2.9	4.4	14.6	57.1	8.3	6.3	4.5					
20,001-40,000	175	17.1	16.0	4.0	2.9	0.6	6.3	17.2	36.0	208	19.3	5.8	2.4	6.7	69.7	190	1.0	1.0	1.1	2.6	19.0	53.2	8.4	9.0	4.7					
Greater than 40,000	71	28.2	5.6	11.3	5.6	0.0	1.4	11.2	36.6	83	12.2	2.4	1.2	10.8	60.2	76	7.9	1.3	1.3	4.0	17.1	43.4	6.6	17.1	1.3					
Occupation	886									944						944														
Farm	554	14.6	15.5	8.8	5.2	0.5	5.2	13.0	37.0	629	12.6	8.6	1.8	8.1	70.0	587	1.7	1.0	1.2	3.4	20.1	53.3	10.2	5.3	3.7					
Skilled/Trade	184	23.9	17.4	7.1	5.4	0.0	3.3	9.8	33.2	212	12.7	9.0	2.4	12.7	62.7	199	1.5	1.0	7.0	5.0	15.1	49.2	5.5	11.6	4.0					
Not Currently Working	148	26.4	8.1	7.4	3.4	1.4	1.4	16.9	35.1	171	10.5	7.6	1.2	7.6	65.5	158	3.8	1.9	0.6	5.7	13.9	60.8	3.2	7.6	2.5					
Marital Status	838									949						895														
Not Married	197	52.3	3.1	3.1	2.5	0.0	2.5	12.2	24.4	223	13.0	9.0	1.8	8.5	62.8	206	3.4	1.0	1.9	2.9	14.1	58.7	7.3	6.8	4.9					
No Co-Wives	443	8.6	18.5	8.1	7.0	1.1	3.4	14.7	38.6	517	12.6	8.9	2.3	7.5	68.9	481	1.0	1.7	2.3	3.5	18.3	54.3	9.2	6.7	3.2					
Has Co-Wives	198	11.1	18.2	13.6	3.5	0.0	7.6	11.6	34.3	219	11.9	7.8	0.9	10.0	71.7	208	2.9	0.5	3.4	6.7	19.7	49.5	7.2	5.8	4.4					

* Reported by women who are not using an FP method and do not intend to.

† Based on the full sample of responses to "if you thought you had an STI, what would be the main barrier to getting treatment."

‡ Based on women who have heard of AIDS. The question asked is "What might keep you from getting tested for HIV/AIDS?"

§ Other consists of "partner opposition," "not aware of testing," and "no cure."

Table 9.3 Percent Distribution of Preferred FP and STD Information Sources for Women and Men by Selected Background Variables

Variable	Women							Men												
	Doctor/Nurse/ Midwife	Health Worker	Relative/Friend/ Partner	Other**	n	Doctor/ Nurse	Health Worker	Relative/Friend/ Partner	Other**	n	Doctor/Nurse/ Midwife	Health Worker	Relative/Friend/ Partner	Other**	n	Doctor/Nurse	Health Worker	Friend/Relative	Traditional Healer/Elders	
Total	970	48.1	33.8	9.5	8.5	953	63.9	27.4	4.3	4.4	562	31.9	49.8	8.0	10.3	661	79.7	6.4	7.9	6.0
Age Group	969				947					557					653					
15-19	192	37.5	27.1	20.8	13.6	213	64.8	18.3	7.0	9.9			na					na		
20-24	285	50.9	36.1	8.8	4.3	268	65.3	29.5	3.0	2.2	108	32.4	42.6	13.9	11.1	225	78.7	6.2	9.3	5.7
25-29	297	48.8	36.0	6.7	8.4	282	62.1	30.9	4.3	2.9	162	29.6	52.5	5.6	12.4	164	81.7	4.9	9.2	3.2
30-34	195	53.3	33.9	3.6	9.2	184	64.2	29.9	3.3	2.7	110	29.1	56.2	6.4	6.4	104	77.9	10.6	2.9	8.7
35-39			na					na			96	40.6	44.8	6.3	8.3	92	82.6	4.4	7.6	5.4
40-44											81	29.6	49.4	9.9	11.1	68	79.4	7.4	5.9	7.4
Education	970				948					561					657					
None	478	43.9	35.4	9.2	11.6	457	57.8	34.1	2.4	5.7	198	31.3	46.5	11.6	10.6	185	77.3	2.7	9.7	10.3
Primary	456	51.3	32.7	10.1	6.0	454	68.7	21.8	6.4	3.1	305	31.5	50.8	7.2	10.5	383	80.4	7.3	7.8	4.4
Secondary or higher	36	63.9	27.8	5.6	2.8	37	81.1	16.2	2.7	0.0	58	36.2	55.2	0.0	8.6	89	82.0	10.1	3.4	4.6
Parity	970				948					562					658					
0	165	36.4	26.1	21.2	16.4	182	66.4	20.3	6.6	6.6	129	31.0	49.6	8.5	10.9	277	77.6	5.4	9.4	7.6
1	243	47.3	32.9	9.9	9.9	225	63.1	26.2	4.9	5.8	118	27.1	50.9	12.7	9.3	101	84.2	6.9	4.0	5.0
2	207	53.6	34.8	6.8	4.9	197	65.0	30.0	2.0	3.0	121	34.7	47.1	8.3	9.9	109	78.9	7.3	10.1	3.7
3	149	51.0	36.9	4.7	7.4	142	69.7	26.8	2.8	0.7	68	25.0	63.2	2.9	8.8	66	75.8	10.6	7.6	6.1
4+	206	51.0	37.9	5.8	5.4	202	57.4	33.7	5.0	4.0	126	38.1	44.4	5.6	11.9	105	84.8	4.8	4.8	5.7
Income	970				953					562					661					
Less than 1,500	112	44.6	30.4	8.9	16.1	113	65.4	23.0	4.4	7.1	54	27.8	38.9	7.4	25.9	64	67.2	1.6	21.9	9.4
1,500-4,000	171	42.1	43.3	10.5	4.1	170	55.4	35.3	6.5	2.9	89	25.8	59.6	12.4	2.3	103	77.7	5.8	5.8	10.6
4,001-9,000	209	42.6	38.8	11.5	7.2	198	62.1	32.3	1.5	4.0	123	27.6	54.5	8.1	9.8	148	76.4	7.4	10.8	5.4
9,001-20,000	204	56.4	27.5	6.9	9.3	205	64.9	26.8	3.4	4.9	119	39.5	42.0	7.6	10.9	136	82.4	10.3	2.9	4.4
20,001-40,000	196	52.0	31.6	6.6	9.7	191	64.4	24.1	6.3	5.2	123	35.8	48.8	5.7	9.8	140	84.3	2.9	7.9	5.0
Greater than 40,000	78	50.0	26.9	16.7	6.4	76	81.6	13.2	4.0	1.3	54	29.6	53.7	7.4	9.3	70	87.1	8.6	1.4	2.9
Occupation	967				945					470					470					
Farm	612	44.8	35.6	9.5	8.2	588	63.7	27.2	3.9	5.3	216	35.7	44.9	9.3	10.2	216	75.0	7.9	10.7	6.5
Skilled/Trade ***	199	41.7	40.2	7.5	10.6	200	56.5	36.5	2.5	4.5	107	18.7	56.9	10.3	12.2	106	82.1	2.9	7.6	7.6
Not currently working	156	61.6	19.2	12.2	6.4	157	74.4	17.2	8.3	0.0	147	38.1	46.3	6.1	9.5	148	83.1	6.8	5.4	4.8
Co-Wives	914				896					539					499					
Not married	180	47.2	31.7	10.6	10.6	205	75.1	17.6	3.9	4.4										
No co-wives	515	44.1	37.7	9.1	9.2	483	58.2	32.7	4.1	5.0	441	31.5	51.7	6.6	10.2	414	80.4	7.3	6.3	6.0
Has co-wives	219	56.6	28.3	8.7	6.4	208	67.3	27.9	3.4	1.4	98	35.7	42.9	9.2	12.2	85	74.1	5.6	14.1	5.9

* Among those ever having sex
 ** Other category for women includes Field Worker and Don't Know; for men, other includes fieldworker, teacher, pharmacist, don't know, nowhere
 *** Skilled and trade shown jointly for women and in separate rows respectively for men.

Table 9.4a Percent Distribution of Preferred FP, STD and HIV Service Sites for Men by Selected Background Variables

Variable	Preferred Source for FP Services					Preferred Source for STI Services					Preferred Source for HIV Testing Services					
	n	Doctor/Nurse/ Midwife	Health Worker	Personal	Other*	n	Government/ Mission Hospital	Health Center	Traditional	Other**	n	Government/ Mission Hospital	Health Center	Private Sector	BLM	Other
Men	563	34.3	47.8	7.3	10.7	666	78.1	15.0	3.3	3.6	659	84.4	3.6	2.3	6.1	3.6
Age Group	558					658					652					
20-24	108	35.2	42.6	11.1	11.1	227	78.4	14.5	3.1	4.0	224	82.6	4.0	2.2	5.8	5.4
25-29	163	35.0	47.2	6.1	11.7	167	82.0	12.6	2.4	3.0	166	81.3	4.2	4.2	6.6	3.6
30-34	110	29.1	58.2	5.5	7.3	104	74.0	17.3	2.9	5.8	103	84.5	2.9	1.9	7.8	2.9
35-39	96	38.5	45.8	7.3	8.3	92	77.2	16.3	4.4	2.1	91	91.2	1.1	0.0	4.4	3.3
40-44	81	34.6	44.4	7.4	13.6	68	75.0	17.7	4.4	2.9	68	86.8	5.9	1.5	5.9	0.0
Education	562					662					655					
None	198	34.3	44.4	10.6	10.6	188	69.2	20.7	6.4	3.7	184	86.4	4.9	0.0	6.5	2.2
Primary	305	32.8	49.2	6.6	11.5	385	80.5	13.8	2.6	3.1	382	85.1	3.7	2.6	6.0	2.6
Secondary or higher	59	42.4	50.9	0.0	6.8	89	86.5	7.9	0.0	5.6	89	76.4	1.1	5.6	5.6	11.2
Parity	563					663					656					
0	129	36.4	47.3	6.2	10.1	280	79.3	12.1	3.6	5.0	273	81.0	2.9	2.9	5.9	5.9
1	119	29.4	49.6	11.8	9.3	102	78.4	16.7	3.9	1.0	102	88.2	2.9	2.9	4.9	2.0
2	121	34.7	46.3	6.6	12.4	110	73.6	20.0	1.8	4.6	110	85.5	4.6	0.9	7.3	1.8
3	68	25.0	60.3	4.4	10.3	66	80.3	13.6	6.1	0.0	66	89.4	1.5	0.0	7.6	1.5
4+	126	41.3	41.3	6.4	11.1	105	77.1	17.1	1.9	3.9	105	84.8	3.8	2.9	5.7	2.9
Income	563					666					659					
Less than 1,500	54	27.8	40.7	5.6	25.9	64	76.6	15.6	3.1	4.7	63	82.5	1.6	3.2	9.5	3.2
1,500-4,000	89	25.8	59.6	10.1	4.5	104	73.1	17.3	7.7	2.9	102	84.3	8.8	2.0	2.0	2.9
4,001-9,000	123	29.3	51.2	7.3	12.2	151	75.5	14.6	3.3	6.6	148	87.2	2.0	2.0	7.4	1.4
9,001-20,000	120	42.5	39.2	7.5	10.8	137	79.6	18.3	0.7	1.4	137	81.8	3.7	2.9	7.3	4.4
20,001-40,000	123	41.5	44.7	5.7	8.1	140	82.9	10.0	3.6	3.5	140	82.9	4.3	1.4	6.4	5.0
Greater than 40,000	54	31.5	53.7	7.4	7.4	70	80.0	15.7	1.4	2.9	69	88.4	0.0	2.9	2.9	5.8
Occupation	471					474					468					
Farm	216	38.4	42.6	7.4	11.6	218	70.2	20.6	5.1	4.1	213	88.7	4.7	1.4	4.2	0.9
Skilled	108	18.5	60.2	10.2	11.1	108	80.6	12.0	3.7	3.7	108	85.2	4.6	1.9	6.5	1.9
Trade	147	42.2	41.5	6.0	10.2	148	83.1	13.5	2.0	1.4	147	81.0	2.0	2.0	10.2	4.8
Co-Wives	540					501					498					
One wife	442	33.3	49.6	6.1	11.1	416	77.4	16.1	3.4	3.1	413	84.0	3.4	1.9	7.8	2.9
Two or more wives	98	39.8	41.2	9.2	9.2	85	77.6	15.3	3.5	3.6	85	91.8	2.4	2.4	2.4	1.2

* Other category includes field worker, teacher, pharmacist, don't know, nowhere

**Other category includes private sector, field worker, relative/friend, mobile clinic, pharmacy, MACRO, BLM, and don't know

Table 9.4b Percent Distribution of Preferred FP, STD and HIV Service Sites for Women by Selected Background Variables

Variable	Preferred Source for FP Services					Preferred Source for STI Services					Preferred Source for HIV Testing Services				
	n	Government	Health Center	Field Worker	Other*	n	Government/Mission	Health Center	Traditional	Other**	n	Government/Mission	Health Center	Private Sector	Other***
Women	1020	59.9	29.6	2.5	8.0	953	66.6	27.9	2.0	3.5	939	69.6	21.4	2.3	6.7
Age Group	1014					947					948				
15-19	233	70.0	17.2	0.9	11.9	213	71.4	17.4	4.2	7.0	214	71.0	16.8	2.3	9.9
20-24	287	60.6	30.0	3.8	5.6	268	66.8	28.7	1.1	3.4	268	69.0	22.4	2.2	6.4
25-29	298	55.0	34.6	2.0	8.4	282	68.4	28.0	0.7	2.9	282	72.7	19.5	2.1	5.7
30-34	196	53.6	37.2	3.1	6.1	184	58.7	38.6	2.2	0.5	184	64.1	27.7	2.7	5.5
Education	1015					948					949				
None	485	49.9	38.1	3.9	8.1	457	56.2	37.4	1.3	5.1	457	60.2	28.7	2.2	8.9
Primary	491	69.0	22.4	1.2	7.4	454	75.3	20.3	2.6	1.8	455	77.4	15.8	2.2	4.6
Secondary or higher	39	64.1	18.0	0.0	17.9	37	89.2	5.4	0.0	5.4	37	89.2	0.0	5.4	5.4
Parity	1015					948					949				
0	208	66.8	18.3	0.5	14.4	182	69.2	20.9	1.1	8.8	183	72.7	13.7	2.2	11.4
1	243	60.9	30.5	2.5	6.1	225	69.3	25.8	2.7	2.2	225	70.7	20.9	3.1	5.3
2	207	61.4	27.5	2.9	8.2	197	64.0	31.0	2.0	3.0	197	71.6	20.3	3.1	5.0
3	149	53.0	34.2	5.4	7.4	142	69.7	28.2	0.0	2.1	142	69.7	21.1	1.4	7.8
4+	208	54.3	39.4	1.9	4.4	202	61.9	33.7	2.0	2.4	202	63.4	30.2	1.5	4.9
Income	1020					953					954				
Less than 1,500	119	56.3	31.1	1.7	10.9	113	68.1	26.6	1.8	3.5	113	74.3	16.8	2.7	6.2
1,500-4,000	179	58.7	33.0	1.7	6.6	170	61.2	34.1	2.9	1.8	171	70.2	22.8	1.2	5.8
4,001-9,000	216	52.3	36.1	2.3	9.3	198	58.6	35.9	2.5	3.0	198	62.1	28.8	1.5	7.6
9,001-20,000	215	56.7	30.2	3.3	9.8	205	69.3	25.9	1.0	3.8	205	68.3	22.0	2.0	7.7
20,001-40,000	208	66.4	26.0	2.4	5.2	191	69.1	23.6	2.6	4.7	191	71.7	18.3	4.2	5.8
Greater than 40,000	83	79.5	10.8	3.6	6.1	76	84.2	11.8	0.0	4.0	76	79.0	11.8	2.6	6.6
Occupation	1012					945					946				
Farm	629	55.8	35.5	2.4	6.3	588	59.0	35.4	1.9	3.7	588	65.0	25.7	2.9	6.4
Skilled/Trade	212	60.4	23.6	4.2	11.8	200	80.5	13.0	1.5	5.0	200	82.5	8.0	1.0	8.5
Not currently working	171	73.1	16.4	0.6	9.9	157	77.7	19.1	2.6	0.6	158	70.3	22.2	1.9	5.6
Co-Wives	959					896					897				
Not married	223	68.2	22.4	0.5	8.9	205	72.2	21.5	2.4	3.9	206	71.4	18.0	2.4	8.2
No co-wives	517	55.7	33.9	3.7	6.7	483	64.8	30.2	1.9	3.1	483	68.1	22.8	1.9	7.2
Has co-wives	219	54.8	32.0	2.3	10.9	208	60.1	33.7	1.4	4.8	208	66.3	26.0	4.8	2.9

* Other category includes Mobile Clinic, Private Facility, Pharmacy, Private Doctor, BLM, Friend/Relative, Don't Know, and No Response

** Other category includes Health Worker, Relative/Friend, Private Facility, Don't Know

*** Other includes MACRO, not aware of test, BLM, nowhere

Wave 3

In Wave 3, 68% of the sample (61% for men and 72% for women) first seen in Wave 1 Week 1 were re-interviewed. Of the 569 respondents not interviewed in Wave 3, 80% had moved away, 4% refused to participate in Wave 3, and 2% had died. Most of the attrition occurred by February 2001, more than a year before Wave 3. Nearly three-quarters of Wave 3 respondents consented to STI testing, three-fifths (65% of men and 56% of women) consented to HIV testing, and 70% of the women to pregnancy testing. Both the attrition and selective consent to testing caution against generalizing from the findings. Secondary analysis of the study data will occur in the future with the panel of respondents seen throughout the data collection period in order to compare outcome levels and behavioral patterns with those seen at each point in time.

Several findings from the Wave 3 analysis are worth highlighting:

- The re-interviewed sample is likely to have been less mobile in character and, thus, to the extent that mobility is a factor for infection transmission, the differences in infection seen in the Wave 3 sample should be interpreted cautiously.
- Contraceptive use, particularly of modern methods, has apparently increased in the two years in this district sample. Among men, prevalence has increased from 18% to 32% and among women from 20% to 27%. Both condom and injectable use has risen, more strikingly in condom use trends as reported by men (4% to 12%) and injectable use trends by women (8% to 14%).
- The level of unwanted pregnancy among women pregnant at the time of survey increased from 8% to 19% between the two time points, while planned pregnancy declined from 69% to 50%.
- The measurement of STI and HIV status with biomarkers (urine-based) provides an important means for verifying perceived symptoms and risks. We learn in Wave 3 that:
 - a. A higher proportion (72% to 73%) of those re-interviewed in Wave 3 compared to Wave 1 gave a urine specimen with no gender differences observed.
 - b. The prevalence of gonorrhea may have declined from 6.2% to 0.6% among men and from 3.6% to 1.3% among women.
 - c. The prevalence of chlamydia may have declined from 5.8% to 1.2% among men and 4.9% to 1.1% among women.
 - d. Prevalence of either GC or CT may have declined from as much as 10.7% to 1.5% among men and 7.9% to 2.1% among women.
 - e. HIV prevalence is measured at 18.8% for men and 20.8% for women consenting to be tested. HIV infection is highest among men aged

35-39 and among women aged 25-29, those with no education, where the wife is pregnant and among the poorer and wealthier households.

- f. HIV infection is higher with more recent sexual partnering and does not correspond to perceived risk. Infection is also higher among those exposed to unprotected sex which risks infection of subsequent pregnancies.
 - g. STI-infected women, while few in number in Wave 3, were nearly as likely to be using modern contraception as uninfected women. Screening FP clients for STIs and HIV may be helpful for dual-risk prevention efforts.
 - h. HIV positive pregnant women were more likely than those HIV negative to report a planned pregnancy. Not only are MTCT prevention efforts, such as with antiretroviral drugs administered to mothers and newborns during delivery, obviously indicated, but so too is FP counseling of couples with one or both partners infected.
- STI symptom reporting increased significantly from 7.7% to 27.7% among women and from 3.5% to 8.9% among men. At the same time condom use also increased from 4.3% to 12.2%

among men (but not among women). The field teams were distributing condoms, received gratis from the district hospital, during the study period and significant STI counseling had taken place in Waves 1 and 2, given the required testing protocols of the MHRC. It is possible these two initiatives constituted an informal intervention with some responsibility for the observed changes.

- Analysis of four themes explored through focus group discussion data show the following:

Pregnancy avoidance – Sound knowledge of the fertility cycle and FP methods is lacking; and barriers to modern FP method use include misconceptions of side effects, women’s lack of decision-making power, lack of access to health facilities, and cultural beliefs. These barriers encourage the use of ineffective traditional methods and unprotected sex.

STI and HIV avoidance – Knowledge of STI and HIV/AIDS and means of avoidance is relatively high, but knowledge of protecting against both STI and unwanted pregnancy is limited. Responsibility for initiating sex and protecting partners from transmission was strongly gendered and directed to men. Close access to HIV testing services and expanded community-level information and education efforts are uniformly desired.

Prevention of mother-to-child transmission – Although knowledge that HIV can be transmitted from mother to child was widespread, there was limited

understanding of how the transmission occurred. Most participants believed transmission was inevitable. Barriers to using voluntary testing and counseling services included women's fear of being divorced or stigmatized by their communities. Despite the existence of anti-retroviral drugs for managing HIV/AIDS patients and preventing MTCT, most participants did not know about these drugs. There was also a lack of voluntary testing, counseling and treatment centers in the communities, limiting access to those who could travel to the district hospital. Exclusive breastfeeding is not commonly practiced and very few participants were aware it could increase MTCT. Surrogate breastfeeding is common, but mothers who do not breastfeed are likely to be stigmatized by their communities, making alternative infant feeding options a difficult choice for HIV-positive mothers.

Infertility – The social and personal value placed on fertility came through strongly in the four focus group discussions (FGDs) with men and women. Triggered by visibly long intervals between children, or lack of children, women and men with infertility problems may be belittled by their partners, families, and communities. Marital discord is associated with infertility. Both, but particularly men, are aware of the infertility risk posed by STIs. Group members mentioned assisted fertility practices, either husbands seeking male friends to impregnate their wives or wives

discreetly seeking men to impregnate them in order to have children. There was little discussion of medical treatment of infertility.

We have in this community-based study observed levels of the dual risk of unwanted pregnancy and STI, including HIV, as well as efforts to avoid the first of those risks through contraceptive practice. While HIV awareness is high, perceived risk is low and not correspondent with actual infection status. STI symptom reporting, which is less reliable than clinical measures, was low initially, largely due to lack of awareness. Two years later STI symptom reporting had risen sharply, especially among women. Condom use is low, particularly as reported by women, but among men in the two years rises to levels similar to those for injectables among women (12-13%). Because reported condom use remains at 1% among women, the likelihood of the condom being a method of choice among couples for dual risk avoidance is very small. Consequently the avoidance of each risk appears to remain gender-specific. Women tend to assume responsibility for pregnancy avoidance and men for STI avoidance. What is uncertain is whether the latter involves consistent use and with the man's regular partner. While unwanted pregnancy levels are high among pregnant women, options for avoiding STI or HIV infection are limited; but there are encouraging signs that contraceptive adoption is increasing and that if condoms can be easily accessed, they may be used by men with greater frequency and, possibly, consistency.

The relatively high prevalence of HIV infection in the three communities' populations in this predominantly rural district is sobering, especially since the age composition of the sample falls in the range

of active sexual activity and childbearing. Coupled with the widespread poverty and lack of adequate health care in the area, the implications are that few, if any, individuals will be able to manage their infection with effective drug therapy. The Pregnancy and STI Avoidance Study has endeavored to show not only the relative informational benefits and costs of biomarker (objective) and self-reported (subjective) measures of important sexual and reproductive health and behavior indicators, but also how those measures identify needed programmatic interventions that will require the full financial engagement of national and international governments and non-profit agencies.

Chapter 10: Wave 3 Study Design

Background

With the completion of phase I data collection in the Pregnancy and STI Avoidance Study, the opportunity presented itself to continue community surveillance of the study population in Mangochi district. A third wave of data collection was proposed, which would:

- provide an understanding of the dynamics of couple decision-making on fertility intentions and how perceptions of pregnancy and STI risk influence subsequent behaviors;
- provide GC and CT incidence data over a one-year interval since first test and treatment;
- suggest whether the provision of antibiotics in post-test treatment resulted in any reduction in STI prevalence; and
- assess HIV prevalence using the rapid urine-based HIV-1 test on the same urine specimens originally collected for GC and CT assays.

The study took further efforts to ensure local laboratory capability to conduct these tests and provide post-test counseling and treatment for STI positive cases and counseling and referral for HIV positive cases.

In May 2001, the study collaborators proposed collection of additional data to assess levels of pregnancy and STI, as well as collection of data on the HIV status of respondents, an activity that was not part of Waves 1 and 2 data collection. A proposal

requesting approval for this phase of the study was submitted to the Malawi Health Sciences Research Committee in June 2001. Final approval was received in November 2001. Approval was also received from the UNC institutional review board in February 2002.

Wave 3 data collection involved three components: behavioral data gathered through a questionnaire, administered by personal interview, biological specimen data (urines) obtained with respondent consent, and focus group discussion data. The two original study objectives remained, wherein the study team was interested in assessing differences in the levels and determinants of perceived risk for and behavioral avoidance of unwanted pregnancy and STI at different points in time. In Waves 1 and 2, prevalence of gonorrhea, chlamydia, pregnancy were measured biologically. In Wave 3, these same prevalences were assessed, plus an assessment of the prevalence of an additional infection, HIV, which is likely the predominant STI in the district. In addition to the biological measures of actual prevalence, data were collected during this phase of the study on respondents' knowledge and perceptions of risk for pregnancy and STI, and behaviors to protect their own reproductive and sexual health, as well as that of their partners and children. A set of focus group discussions was also organized to explore four important sexual and reproductive health issues: (1) pregnancy avoidance, (2) STI and HIV avoidance, (3) prevention of MTCT, and (4) infertility.

Wave 3 returned to interview all original Wave 1 (baseline) respondents who had not moved from the area or passed away. The

Wave 3 collaborators were the same as for Waves 1 and 2, with the addition of the Mangochi District Health Office. Financial support for the study was received from the same source as in the previous waves, from USAID through the MEASURE Evaluation project.

Fieldwork

Fieldwork for Wave 3 was initiated in February 2002. The Mangochi Office of SCF had the overall responsibility for organizing the logistics for the fieldwork. The urine specimens were assayed by the STI laboratory at Lilongwe Central Hospital, which has an ongoing collaboration CID at UNC. The Mangochi District Health Office provided certified HIV/AIDS counselors who disseminated the HIV/AIDS results to respondents. A senior researcher CSR served as the consultant for the qualitative component of the study. The fieldwork started with the recruitment of interviewers, supervisors, and data entry persons, and purchase of field supplies. This was followed by training, community sensitization, data collection, data entry, and dissemination of STI results. A UNC team (the co-principal investigator and programmer) visited the study site March 23-31, 2002. They met with the study team to discuss the questionnaire and logistics for the fieldwork. The UNC programmer set up the data entry system using the software CSPRO version 2.2, and trained the data entry clerks and the field supervisors on the editing of the questionnaires and use of the data entry software.

Training of Interviewers

Six research assistants (i.e., interviewers) — five male and one female — who had participated in the earlier waves of the study were available for the Wave 3 data collection. This assisted greatly in getting

the data collection process started in a timely manner. Fifteen new interviewers, 3 males and 12 females, were recruited bringing the total number of interviewers to 21. Three supervisors were also recruited for the study. All three were part of the previous waves, one as a supervisor and two as research assistants. The study also benefited from the assistance of a UNC doctoral student who spent a considerable amount of her internship in helping with supervision of the fieldwork (see Appendix 1 for fieldwork team names).

Two sets of training were conducted for the interviewers. The first was on the survey component of the data collection, and the second on the focus group discussion component. The survey training was conducted March 11-22, 2002. The training focused on the review, piloting, and finalization of the study questionnaire, discussion of urine collection and transportation protocols, review and practice of interviewing techniques, discussion of roles and responsibilities of Research Assistants and their Supervisors, and HIV Pre-test counseling techniques.

In addition to the empirical data, a set of FGDs were conducted to explore four important sexual and reproductive health issues: (1) pregnancy avoidance, (2) STI and HIV avoidance, (3) prevention of MTCT, and (4) infertility. Training for the qualitative data collection was conducted from April 22 to April 26, after the survey component had been completed. All RAs and supervisors participated in the training. The contents of the FGD training included:

- discussion of the rationale for collecting qualitative data;
- protocol for recruiting FGD participants;

- development of moderator skills, and
- Review and finalization of FGD guides.

Of the 21 RAs, 14 were selected to conduct the FGDs discussion based on assessments scored by their peers and the supervisors. They formed seven pairs of moderators and recorders. The moderator facilitated the group discussions, and the recorder took notes. A tape recorder was also used to record the discussions. The recordings were used to fill in gaps in the notes taken by the recorder. The FGD guides used in the study are attached as Appendix 3 to this report. The rest of the RAs who were not selected were assigned to follow up on respondents who were away during the survey. They also conducted quality checks on selected questionnaires and followed up on questionnaires detected to have problems during editing.⁵

Community Sensitization

Prior to the data collection, the three supervisors visited all the study EAs to sensitize the communities on the third wave of data collection. Discussions were held with both study respondents and non-respondents during pre-arranged forums in each of the EAs. The supervisors visited the village headmen and informed them of the community sensitization. The headmen then arranged the day and time for the sensitization session. The sensitization took the form of information sharing by the supervisors on the purpose for the third wave of data collection, and responding to questions from the community members. Opportunity was also taken to arrange for the accommodation of the RAs. The

⁵ Detailed field reports on Wave 3 survey and focus group training are available from the principal investigator.

community sensitization sessions were conducted from March 10 to March 23, 2002.

Among the issues that the supervisors addressed during the sensitization meetings were the following:

- Rumors regarding contraceptives in the token salt and sugar that was given after Wave 2 — This was addressed at Malowa-Chipile and Malekano. At Malekano, one of the female respondents testified that there was no contraceptive in the salt or sugar since she had given birth even though she used the items.
- Reasons why the same respondents are being interviewed — The supervisors explained the rationale behind the study and the need to follow the same group of persons over time.
- Reasons why the study could not be expanded to include new respondents.
- The need for polite RAs — This had to be addressed in two different EAs: Malindi, and Thumbwe.
- The laboratory results from Wave 2 — This issue pertained to persons who gave urine late during Wave 2. The supervisors assured them that their results would be provided to them. This was done during the Wave 3 fieldwork period.
- Whether the urine they provided in Waves 1 and 2 were tested for HIV — This issue came up in Thumbwe. The supervisors assured them that the urines were not tested for HIV.

Table 10.1 Overview of Wave 3 Sample and Response Rates

	Wave 1/Wk1	Wave 2/Wk 2	Wave 3	As % W1/Wk1	As % W2/Wk2
Men	742	484	453	61	93
Women	1020	774	728	71	94
Total	1762	1258	1181	67	94

In a few EAs the sensitization was postponed because of low turnout. However, prior to initiating data collection, all the EAs had been sensitized. Overall, the communities assured the study team of their readiness to participate in the study.

Quantitative Data Collection

Unlike the two previous study phases, Wave 3 involved only one-time contact with the respondents. All original respondents (i.e., Wave 1 respondents) were asked to participate in this phase of the study. Each was read a statement of informed consent, invited to participate, and asked to indicate consent through either a signature or a mark on the appropriate section of the consent form. Consent for the behavioral questionnaire was requested separately from that for the urine specimen. For the urine specimen, different sets of consents were requested, one for STIs (i.e., GC and CT), one for pregnancy (if a female respondent) and the last for HIV/AIDS. For GC and CT, the same protocol used in the Waves 1 and 2, as approved by the Malawi Health Sciences Research Committee, was followed.

Data collection, using the behavioral questionnaire, was conducted from March 24 to April 21, 2002. Urine specimens were also collected during this period. Additional interviews were conducted May 5-30, 2002, during the FGDs, with respondents who were away during the first period of interviews. Again, urine specimens were collected during this time. The residences of all 1,762 respondents (1,020 females and

742 males) who participated in the baseline survey during Wave 1 were visited. Of these, 1,181 respondents (728 females and 453 males) were successfully interviewed giving a response rate of about 67%. Of the original baseline respondents, 455 (218 females and 237 males) were away at the time of the Wave 3 data collection. Most of these “aways” had migrated to work, either on estates or farms in other parts of the country or in South Africa, and others were on their farms in the hills that were not accessible or had migrated to fish in other parts of the district. Sixty-seven respondents (36 females and 31 males) refused to participate in the study, and 37 (21 females and 16 males) had died before the time of Wave 3 data collection. The summary of the interviews conducted is given in Table 10.1.

If the number of respondents who participated in Wave 3 data collection is compared to those participating at the end of Wave 2 (week two), the response rate is quite strong. Of the 1,258 respondents interviewed during Wave 2 week two, the study team re-interviewed 1,181 respondents, giving a response rate of 94%. Of the 484 eligible men, 453 were re-interviewed, for a response rate of 93%. Of the 774 eligible women, 728 were re-interviewed, for a response rate of 94%.

Prior to collecting urine from the respondents, and as part of the consent protocol, each respondent was provided with information about the transmission of HIV with special emphasis on the sexual mode of and mother-to-child transmission.

Table 10.2 Summary of Wave 3 Urine Collection and Test Consent

Sample (N)	GC/CT		HIV		Pregnancy	
	n	%	n	%	n	%
Male (453)	332	73	295	65	--	--
Female (728)	526	72	410	56	510	70
Total (1181)	858	73	705	60		

Information about the testing process, assurance of confidentiality including shared confidentiality, couple counseling, and the implications of both negative and positive test results including stigma and positive living were discussed. As mentioned earlier, consent for STI (GC and CT) and HIV were asked separately. Each respondent who consented to give urine signed the appropriate consent form or forms. After she or he had provided the urine, the RA put a sticker on the urine container and the questionnaire indicating the type of tests the respondent had consented to. Female respondents were, in addition to STI and HIV testing, offered pregnancy testing and had to consent to this test separately. Collected urine specimens were stored in cooler bags carried by the RAs, who at the end of each day transferred them into cooler boxes. Both the cooler bags and boxes contained frozen ice packs to maintain the temperature of the urine at a level that would not invalidate the laboratory tests. The specimens were then transferred each evening to a field laboratory where a lab technician aliquoted them into two cyrovial sets, with one set stored frozen and one kept “fresh.” The lab technician also tested the urine of consented female respondents for pregnancy. Both the frozen and “fresh” urines were then transported to the laboratory at Lilongwe Central Hospital where they were tested for GC and CT, and the “fresh” urines were tested for HIV.

Overall, 705 respondents (60%), 410 females (56%) and 295 males (65%),

consented to be tested for HIV.⁶ Eight hundred and fifty-eight respondents (73%), 526 (72%) females and 332 (73%) males, provided urine to be tested for both GC and CT. Five hundred and ten (70%) of the female respondents consented to having their urine tested for pregnancy, as can be seen in Table 10.2.

Data Entry

Three persons were recruited in March to process and enter data from the questionnaires. The SCF Community Health Partnerships (CHAPS) data officer provided overall supervision for the data entry. As mentioned earlier, the data entry system was setup by the UNC computer programmer. The team leader for the data entry team reviewed all questionnaires that came to the data office from the field supervisors. Any questionnaire with problems was sent back to the supervisors, who in turn sent it to the RA for resolution. Questionnaires without any problems were passed on to the remaining two data clerks for entry. A wand was first used to scan the bar-coded identification numbers of all “cleared” questionnaires into the computer system, after which the responses recorded on the questionnaires were entered. The quality of the data entry was checked by re-entering 10% of the data. With the exception of one questionnaire, the re-entered data were consistent with the initial entry. Overall, the quality of the data entry was good. Data entry was completed in mid-July. Copies of

⁶ Of these urine samples, 404 and 288, a total of 692, could be tested.

the data files were sent to the UNC co-investigators, where data cleaning was completed. The data analysis was conducted by the study team, both in Malawi and the USA, and the findings shared widely during an October 2002 dissemination seminar, as well as through the current professional networks of the collaborating organizations.

Qualitative Data Collection

Twenty-one focus group discussions were held to explore further the community attitudes and practices with regard to pregnancy avoidance, infertility, STI/HIV/AIDS, and prevention of MTCT. The FGD sessions were conducted from May 5 to May 18, 2002. The sessions were held in all 13 of the study EAs. All four topics were discussed in each of the three traditional authorities but not in each EA.

Women of age 15 to 34 years, and men of age 20 to 44 years, resident in the EA for at least 12 months, and not respondents of the survey component of the study participated in the FGD sessions. Sessions were held with specific community members, such as adolescents, community leaders (both male and females but in separate sessions), mothers-in-law, adult males, and adult females. Other participant information collected, through a screening questionnaire, included educational attainment, marital status, occupation, religion and number of children. The mothers-in-law screening form in addition collected information on the number of married daughters and sons.

The conduct of the FGD sessions went well in general. However, there were some associated challenges. In one location, it was difficult to elicit responses from participants of the prevention of MTCT FGD session. This was due to lack of knowledge about MTCT issues among the

participants. Some participants brought their children to the sessions and they had difficulty keeping them from crying. The discussion groups involving adolescent-aged women were dominated by participants who had given birth, while those who had never delivered did not feel comfortable voicing their perceptions on the issues being discussed. In addition, the youth did not feel comfortable discussing cultural sexual practices.

All the FGD sessions were transcribed and translated into English. The translated English transcripts were typed and distributed to various team analysts. All the FGD session tapes, original hand-written Chichewa notes, and English translations have been stored at the Mangochi office of Save the Children Federation.

Laboratory Tests

The laboratory tests were conducted at the STD Unit laboratory of LCH. The hospital laboratory was equipped and staff trained to conduct Abbott LCR tests of the urine specimens for GC and CT and Calypte HIV-1 urine tests. The installation of the equipment and training were facilitated by CID at UNC. Laboratory technicians from Mangochi District and Zomba Central Hospitals conducted the pregnancy tests. Sekunjalo Medical Company human chorionic gonadotrophin (hcG) pregnancy dipstick test kits were used for the pregnancy tests.

The urine-based GC and CT tests were conducted using an Abbott LCx Probe System that detects chlamydia trachomatis plasmid and gonococcal DNA. The LCx assay uses the nucleic acid amplification method (ligand chain reaction or LCR) to detect DNA directly in urine and enjoys high sensitivity and specificity when compared to culture. The HIV-1 urine EIA

test is manufactured by Calypte Technologies and is an enzyme immunoassay for in vitro detection of antibodies to Human Immunodeficiency Virus Type 1 in urine. Specimens that are repeatedly reactive using this test are tested further with a Western Blot test kit. Only persons who tested positive to both the in vitro EIA and Western Blot tests were classified as positive. Persons who tested positive with EIA but negative with Western Blot were classified as negative. A few persons were classified as indeterminate because their Western Blot tests were inconclusive.

Chapter 11: Selected Survey Results

Sample Composition

Table 11.1 provides the social, economic, and demographic characteristics of the study sample from Wave 3. The sample with complete information now consists of 451 men and 727 women. Ages from Wave 1 have been used to calculate age at the time of Wave 3. All individuals have been aged two years since the initial data collection. Levels of education remain about the same as in Wave 1, with higher percentages of men receiving education than women, and with few men and women receiving secondary or higher education. There are slightly fewer men and women with no education than there were in Wave 1. Given the additional time for childbearing, the percentage of men and women without any children decreased since Wave 1; thus increases are now seen for each level of parity above 0. Almost one-third of the Wave 3 sample population has four or more children. It is highly probable that the Wave 3 sample represents the least mobile segment of the Wave 1 sample, given that nearly 94% of those seen at the end of Wave 2 were re-interviewed in Wave 3.

The majority of men in Wave 3 are paid workers (74.9%), and only a very few are not currently working, or did not report work status (6.4%). Most women remain unpaid for their labor (52.7% unpaid vs. 27.7% paid), while 19.7% do not currently work or did not report work status. The distribution of occupations is heavily weighted toward farming (53% for men and 62.3% for women). A much higher percentage of men than women are engaged in skilled labor (24% vs. 3.4%). Only about one-sixth of the sample population is engaged in trade. For Wave 3, household

income is measure by quintiles, rather than the income categories used previously. There is a fairly even distribution of household incomes among the five categories, although more than 20% are in the lowest income quintile and less than 20% are in the highest income quintile.

Most respondents are married or in a union (73.6% of men and 77% of women). Almost half of married women report that they do not have any co-wives, less than 20% report the existence of one co-wife and less than 2% report multiple co-wives. The percentages are very similar to those for Wave 1. The percentage of men reporting number of sexual partners decreased slightly compared to the Wave 1 results for each level. In particular, 6.9% of men report two partners in Wave 3, while 12% of men reported two partners in Wave 1. About 30% of men reported no sexual partners or did not offer a number. We assume, again, that the more mobile men, a group that has in other analyses (not shown here) reported more sexual partners, were not relocated in Wave 3.

Pregnancy Avoidance

Almost one-third of men and 27.4% of women reported currently using FP (see Table 11.2). For both men and women, current use is at its lowest for those with little or no education, and those at parity 0. Few linear patterns are apparent in the distributions of FP use by background characteristics, although for women it appears that current use increases by level of education and income.

The most common methods of FP reported by men are condoms (12.2%) and periodic

abstinence (8.2%). Condom use is highest for younger men (18% of those aged 22-26), those with secondary or more education (19.7%), those at parity 0 (17.1%), and those whose household income is either in the highest or lowest quintile (15.1% and 14.9%, respectively). Periodic abstinence on the other hand, is more often practiced by older men, those with no education, those at higher parities, and those in the lower income quintiles.

The most common methods mentioned by women are Depo-Provera (13.6%) and “other,” which includes mainly traditional methods (6.0%). Condom use is reported by only 1.2% of women, and periodic abstinence by 4.1%. Use of Depo-Provera is highest for women in the middle age groups, those with secondary education, and those with two or more children. There is wide variation of use of Depo-Provera by income level; no clear pattern emerges.

Current use is higher among men in Wave 3 than Wave 1 (32.5% vs. 18.4%) and among women (27.4% vs. 20.5%) as seen in Table 5.1. Again, re-interviewing a more sedentary or residentially stable subsample in Wave 3 may account for some of the apparent rise. A substantial change in level of injectable use is observed among women in the Wave 1 and 3 samples, with 8.0% use at the earlier time point and 13.6% use in the period two years later. Among men, condom use in Wave 1 is reported at 4.3% and at 12.2% in Wave 3, while periodic abstinence changes from 4.5% to 8.2%.

Planned Status of Current Pregnancy

As seen in Table 11.3, there were 104 women (14.3%) reporting to be pregnant in Wave 3. Of these, 50% reported their pregnancy as planned, 30.8% mistimed and almost 20% were unwanted. Mistimed and unwanted pregnancies were more often

reported by older women, those with any education, and those with four or more children. Only four pregnant women tested positive for either gonorrhea or chlamydia, while 15 pregnant women tested positive for HIV. Of the women who tested positive for HIV, a higher proportion (46.7%) reported their pregnancy as planned as compared to those who tested negative (38.6%). Women in the lowest two income categories were much more likely to report their pregnancy as unwanted (27.6%) than were women in the highest three income categories (16%), and less likely to report the pregnancy as mistimed (24.1% vs. 33.3%).

Compared to Wave 1 (see Table 7.1), the level of unwanted pregnancy was higher among pregnant women in Wave 3 from 7.7 to 19.2%, while there were fewer planned pregnancies (from 69% to 50%). This is based on fewer pregnancies (104) reported in Wave 3 than Wave 1 (129). Increased levels of unwanted pregnancy are observed for all categories of age, education, and parity as well as those not infected with GC/CT. Again, sample selection effects may partially explain these differences.

Contraceptive Use by Fertility Intentions and STI Status

Dual risk and prevention is examined in Table 11.4. As in Table 7.3 earlier, we are interested in whether STI and HIV screening of modern method contraceptors represents an opportunity for joint prevention of unwanted pregnancy and STI infection. Contraceptors accessing the pill, injectable or condom through public or private health providers have the occasion to be counseled and screened at some level.

We see that 17.6% of women and 20.4% of men report using a modern method of FP (the contraceptive pill, condoms, or Depo-Provera). While women who either report

an STI symptom or are actually infected with GC or CT are less likely to use modern contraception, their levels of use are not considerably lower than those without infection (15.4% vs. 19.4% for reported symptom, 14.3% vs. 18.6% for GC cases, and 16.7% vs. 18.5% for CT cases). For both women and men, modern contraceptive use is lower among those who are HIV-positive, compared to HIV negative women and men (17.3% to 20% for women, and 17.3% to 23% for men). Modern contraceptive use varies curvilinearly with the level of perceived risk for both men and women, with more use among those perceiving no risk for themselves, least if a small risk is perceived, and then rising when moderate or great risk is reported. Those unsure evidence the lowest use levels. Differentials in modern contraceptive use by future fertility intention shows that women interested in birth spacing and limiting are equally likely to use modern contraception (17.3% and 17.9%) and those who are uncertain are even more likely (24.5%).

Too few men tested positive for GC or CT to permit comparison of their modern contraceptive use levels. Those reporting no STI symptoms show 20.6% use compared to 17.5% among those reporting symptoms. Those men not wanting more children report much higher levels of modern contraceptive use (27.7%) than those who either do not know (19.6%) or want more (18.8%), and in fact higher than women (17.9%).

Specimen Provision

As seen in Table 11.5, almost the same percentage of men as women provided urine samples in Wave 3 (72.3% and 73.3% respectively); whereas in Wave 1 (see Table 8.1), more women than men provided a sample. There does not seem to be an age pattern in the provision of urine samples for either Wave 3 men or women; in Wave 1

provision declined by age for men. As in Wave 1, Wave 3 men and women with secondary or higher education are more likely to provide specimens; however there is little difference between those with no education and those with primary education (71.5% and 70.4% for men, 72.1% and 72.4% for women). Men's likelihood of provision in Wave 3 appears to increase with parity, although there is a slight decrease between parity 3 and 4+. No variation by parity was seen in Wave 1. There is not as much variation by parity for women in Wave 3, although there is a peak at parity 2 (77.9%). In Wave 1, urine provision by women remained at about 73-74% until parity 3 and reached 82.2% for parity 4+. Wave 3 women who reported being pregnant were more likely to provide a specimen than were those who reported no pregnancy (79.8% vs. 72.1%). This is different than in Wave 1, where 69.2% of pregnant women provided a specimen compared to 76.8% for those non-pregnant. By income, the likelihood of providing a urine specimen peaks for men in the second income quintile (79.7%) and is the lowest at either end of the spectrum. The same pattern is seen for women as well, although here the peak is in the third income quintile (78.3%).

Self-Reported Sexually Transmitted Infections

Gonorrhea and chlamydia test results yielded low prevalence levels in Wave 3, 1.3% and 1.1%, respectively, for women and 0.6% and 1.2%, respectively, for men. Because of the small number of cases, we do not replicate the analysis comparing presence of an infection with reported symptoms. Table 11.6 provides only Wave 3 differentials in self-reported STI symptoms for women. Although not a panel (i.e., same sample) comparison, the level of change observed prompts us to reproduce

Table 11.7 Overview of HIV Test Consent and Results

Test status	Female		Male	
	n	%	n	%
No test	323	44.4	163	36.1
Indeterminate	13	1.8	8	1.8
Negative	310	42.6	228	50.6
Positive	81	11.1	52	11.5
<i>HIV+ (excl indeterminate) among tested</i>		20.8		18.8
Total	727	100.0	451	100.0

Wave 1 results in Table 11.6. Note that the age and income categories are different for Waves 1 and 3. The samples in the age categories, however, represent the same re-interviewed individuals from two years earlier.

The percentage of Wave 3 women reporting STI symptoms is quite high, at 27.7%, and considerably higher than in Wave 1 (7.7%). Less than 9% of Wave 3 men report STI symptoms, also higher than in Wave 1 (3.5%). Reports of STI symptoms are highest for women in the middle age categories (22-26 and 27-31 years) where they reach 29-30%, for women with primary level education (30.9%), and women at the lowest parities, particularly for women at parity 0 (36.5%). Women least likely to report STI symptoms are those with secondary education (20%) and those currently pregnant (21.5%). In Wave 1, STI symptom reports increased with education among women.

The overall percentage of men reporting STI symptoms (8.9%) decreases with age, from 11.3% for men aged 22-26 to 4.4% for men aged 42-46, as it did in Wave 1. Men with primary level education have the lowest reported percentage of STI symptoms, while men with no education or secondary level plus have higher levels. The same curvilinear pattern is seen in Wave 1. There is no clear pattern for parity, with peaks at

13.0% for those with no children as well as for those with three children. In Wave 1 symptom reporting by men declines with parity. Men in the middle income quintile report the highest level of STI symptoms (15.3%), while men in the two highest quintiles report the lowest levels (4.7% and 5.6%). No clear pattern was observed in Wave 1.

HIV Prevalence

Among the men and women re-interviewed in Wave 3, 295 and 410 consented to being tested for HIV respectively, with 288 and 404 urines successfully assayed. Their test status and results are given in Table 11.7.

Among those tested and with definitive results, the HIV prevalence level was 20.8% for women and 18.8% for men. Tables 11.8-11.10 show differentials in HIV prevalence among the 280 men and 391 women with definitive test results. Variation in HIV prevalence by background attributes of infected individuals is shown in Table 11.8, by behavioral factors associated with transmission risk in Table 11.9, and by reproductive behaviors in Table 11.10.

Respondent age is measured as of Wave 3. HIV prevalence rises from 11.3% at ages 20-24 to 32.6% at ages 35-39 among men. It declines at ages 40-44 and then appears to rise again; however the sample size here is

small. For women, HIV prevalence increases from 9.5% among those under age 20 to 27.4% among those aged 25-29 and then declines for those aged 35-39. The curvilinear age patterns reflect those observed in other sub-Saharan African populations with moderate to high HIV prevalence.

HIV prevalence declines with education level for both men and women, although it is considerably higher at 15.5% among men with secondary or more education than among women at the same level.

Parity for men is based on their reported live births across all unions. HIV prevalence appears to be curvilinearly related with parity for women and for men increases up to parity 3, after which it declines and then rises again at higher parities. HIV prevalence among men with pregnant wives (26.3%) or among pregnant women (25.4%) is higher than for those not pregnant (18.2% for men and 20.4% for women). This suggests a significant transmission risk to newborns. For women who consented to the pregnancy test, the differential in levels of HIV is similar to that for those self-reporting a pregnancy. No clear pattern of association with household income is observed, although HIV prevalence appears higher at the poorest and better-off ends of the spectrum.⁷

HIV infection risk is expected to rise with the number of sexual partners. Looking at differentials in HIV prevalence by number of lifetime sexual partners (see Table 11.9), we see the expected pattern for both men

⁷ During Waves 1 and 2, the conversion rate for the Malawi kwacha began at 49 kwachas to US\$1 and rose to about 55 kwachas. In Wave, 3 the conversion rate reached 77 kwachas. For the highest category, the annual household income begins at about US\$6,000.

and women. The rise is more pronounced for women, going from just 10.9% for those with one partner to 38.1% for those with four partners, whereas it rises from 15.3% for men with zero to four sexual partners to 22.5% with 10 to 14 partners and remains near this level even as the number of partners exceeds 20. A similar pattern is observed for both men and women for the number of sexual partners in the past 12 months. Interestingly, however, there is no change in HIV prevalence among men by the number of new sexual partners in the past 12 months, whereas, among women, having at least one is associated with a much higher prevalence level (34.4% vs. 19.6%).

Condom use for FP is associated with lower HIV prevalence for men (10.8% vs. 19.8%). Very little condom use is reported by women. Men who believe condoms are effective in preventing HIV are less likely to be infected (18.3% vs. 25%), whereas the reverse occurs for women (22.4% vs. 16.3%).

The perception of AIDS risk appears to have poor predictive value with actual infection. Among those perceiving no or small risk, 14.7% and 27.5% of men, respectively, and 20.3% and 24.7% of women, respectively, are infected, which does not differ much from the percentages infected among those perceiving a moderate or great risk.

We also examined whether the duration of the male partner's absence was associated with HIV prevalence, measuring this using the number of months men reported themselves away the last time and the number of months women reported their male partners away at the current time. No pattern was evident for men and a slight increase was seen with duration for women (20.6% for those with no absent partners to

20.9% if away 1-12 months, to 23.5% if away more than 12 months).

Because HIV infection has important reproductive health implications, we examined prevalence levels by contraceptive and fertility behaviors (Table 11.10). While only 22 men reported two or more wives or partners, they tested at higher HIV prevalence levels than those with only one partner (40.9% to 16.7%).

For both women and men, those not using contraception had higher HIV prevalence levels than those using contraception (20.5% vs. 15.1% for men and 21.4% vs. 19.6% for women). For the HIV-positive cases, in the absence of contraceptive use, the risk of transmission to future conceptions and newborns will be high. Thus, while screening FP clients for STI and HIV may help prevent transmission, counseling HIV positive women and men on FP can help prevent infecting future pregnancies and newborns.

Fewer of the men and women not currently contracepting but intending to adopt in the next six months were HIV infected (16.9% for men and 14.6% for women) than those with no intention to adopt (24.2% for men and 24.6% for women). Again this subgroup represents individuals at risk of a subsequent pregnancy that may become HIV infected. A high percentage of men and women who find the condom unreliable for FP were HIV positive (26.7% and 25.0%, respectively).

HIV prevalence was higher among men not wanting another child (22%) and higher among women who do want another child (22%). HIV prevalence was considerably higher among men and women who were unsure about future fertility (30% and 23.1%, respectively).

Reporting of STI/HIV Results

Overall prevalence of GC, CT, and HIV was 1.0%, 1.2% and 19.2%, respectively. The GC and CT rates were 4.7% and 5.2% in the previous wave. This means there has been a 79% drop in GC prevalence and a 77% drop in CT prevalence between the first and second STI tests. The percentage of women pregnant at the time of the survey was estimated at 10.8%, compared to 12.5% during the first wave of tests. Results from the pregnancy, GC, CT, and HIV/AIDS tests were communicated confidentially to the respondents. STI cases were provided with counseling and antibiotics (erythromycin for the females and doxycycline for the males) in tablet form to treat their infections. The appropriate dosage of tablets was distributed in a dispensing pouch. All other study participants who provided urine for testing received a similar pouch, containing 14 days of vitamin C tablets. The STI and pregnancy test results were communicated to the respondents by the study RAs, who had all received training in STI counseling.

The HIV results were communicated by National AIDS Control Program certified HIV counselors recruited from Mangochi and Phalombe districts. They received a day orientation on the study activities and the HIV testing protocol. Pre-test counseling was, however, provided by the RAs who had received limited training on HIV earlier. To ensure that respondents really wanted to know their status, the certified HIV counselors repeated the pre-test counseling prior to giving the HIV test results to respondents, specifically asking them if they wanted to know their results. Only respondents who confirmed they want to know their test results were given their results. There were a few cases where respondents did not want to know their results and gave excuses, such as not being the respondent, even though their identity

Table 11.11 HIV Status Notification Results

Total consenting to test	705	100.0%
Notified in first round	561	79.5
Notified in second round	45	6.4
Total notified	606	85.9
Away	59	8.4
Refused result	7	1.0
Unable to locate	30	4.3
Died	3	0.4

had been confirmed by the HIV counselor. Post-test counseling for HIV-negative respondents included information on how to remain negative (i.e., prevention of future infection). Post-test counseling for HIV-positive respondents included information on how to live positively, the role of vitamins, exercise, nutrition, and prompt care-seeking for opportunistic infections. Information on the availability of anti-retroviral drugs was also discussed. Information and referral for support and other services were provided.

One hundred and forty-four respondents who provided urine for HIV testing could not be located during the first HIV results dissemination in June and early July. A second dissemination round was then conducted from July 17 to July 20, 2002. Of the 144 respondents, 45 were counseled and provided their results. Fifty-nine respondents were not at home, but cards bearing their ID numbers were left for them to go to the nearest health center for their results (the results by ID number, without names, were left at the nearest health center): seven people refused to receive their results; 30 people could not be traced; and three people had died since being tested.

Unfortunately, the District AIDS Coordinating Committee (DACC) had not established any Community AIDS Committees (CACs) or Village AIDS Committees (VACs) in the study area, with the exception of TA Jalasi. Also, there were

no community support groups to which to refer respondents. Most of the HIV counselors were from the Mangochi District Hospital; thus respondents were asked to go to the hospital for additional counseling if needed.

The SCF principal investigator collaborated with the DACC, community-based options for protection and empowerment, and CHAPS projects to establish post-test clubs in the study communities. Contrary to expectations, respondents were freely sharing their results with the RAs and actually requesting additional information on HIV/AIDS and available support from them. Based on this, the RAs felt the HIV counselors were not providing adequate counseling to the respondents. Therefore a meeting was held with the counselors to discuss how to make the counseling more effective

Table 11.1 Social, Economic, and Demographic Characteristics of Wave 3 Sample

Characteristic	Men		Women		Characteristic	Men		Women	
	n	%	n	%		n	%	n	%
Total	451	100.0	727	100.0					
Current Age					Household Income				
17-21	na	na	169	23.2	Lowest quintile	101	22.4	177	24.3
22-26	156	34.6	201	27.6	Second quintile	69	15.3	119	16.4
27-31	120	26.6	205	28.2	Third quintile	118	26.2	138	19.0
32-36	59	13.1	151	20.8	Fourth quintile	86	19.1	148	20.4
37-41	67	14.9	na	na	Highest quintile	73	16.2	135	18.6
42-46	47	10.4	na	na	Not reported	4	0.9	10	1.4
Not reported	2	0.4	1	0.1					
Schooling					Marital Status				
None	123	27.3	327	45.0	Married/In union	332	73.6	560	77.0
Primary	267	59.2	355	48.8	Not married/In union	119	26.4	167	23.0
Secondary or higher	61	13.5	45	6.2					
Parity					Number of Cowives				
0	111	24.6	73	10.0	None			358	49.2
1	87	19.3	165	22.7	1			138	19.0
2	57	12.6	149	20.5	2+		na	9	1.2
3	49	10.9	119	16.4	Don't know			52	7.2
4+	147	32.6	221	30.4	Not married/In union			167	23.0
					Not reported			3	0.4
Paid Work Status					Number of Partners				
Paid	338	74.9	201	27.7	1	276	61.2		
Unpaid	84	18.6	383	52.7	2	31	6.9		
Not currently working	29	6.4	143	19.7	3+	6	1.3		na
					No partner/not reported	138	30.6		
Occupation									
Farm	239	53.0	453	62.3					
Skilled	108	24.0	25	3.4					
Trade	75	16.6	106	14.6					
Not currently working/ Not reported	29	6.4	143	19.7					

Table 11.2 Percent of Wave 3 Men and Women Using Contraception by Selected Background Characteristics

Men	Current FP User				Women				Current FP User				Method				
	Yes	□	□	Other*	Yes	□	□	Other*	Yes	□	□	Other*	Condom	Dopo	Periodic	Abstin	Other*
Total	32.5	1.6	12.2	6.7	8.2	3.6	27.4	3.0	1.2	13.6	4.1	6.0					
Age group																	
22-26	31.6	2.6	18.0	5.8	3.9	0.6	24.4	1.8	2.4	11.2	3.0	4.7					
27-31	30.3	0.0	10.8	6.7	9.2	3.3	32.8	3.0	1.0	15.4	6.0	7.5					
32-36	44.1	1.7	10.2	8.5	18.6	5.1	27.8	4.4	1.0	17.1	2.4	2.9					
37-41	23.9	1.5	7.5	9.0	3.0	3.0	22.2	2.7	0.7	7.4	5.4	6.0					
42-46	40.4	2.1	6.4	4.3	14.9	12.8	na										
Education																	
None	32.8	2.4	8.1	6.5	8.9	6.5	23.3	3.1	0.6	12.0	3.1	4.6					
Primary	31.3	1.1	12.4	6.7	8.2	2.6	30.6	3.4	1.1	13.8	5.4	6.2					
Secondary or higher	37.3	1.6	19.7	6.6	6.6	1.6	31.8	0.0	6.7	20.0	2.2	2.2					
Parity																	
0	18.9	0.9	17.1	0.0	0.0	0.0	10.9	1.4	5.5	0.0	1.4	1.4					
1	31.0	3.5	11.5	8.1	8.1	0.0	21.8	0.6	1.2	10.9	4.9	4.4					
2	36.8	0.0	12.3	8.8	7.0	8.8	33.6	4.0	0.7	15.4	6.0	7.4					
3	32.7	0.0	12.2	4.1	12.2	4.1	26.1	1.7	0.8	16.8	4.2	2.5					
4+	41.5	2.0	8.8	10.9	13.6	6.1	32.7	5.5	0.5	16.4	3.2	7.3					
Income																	
Lowest quintile	32.0	0.0	14.9	4.0	10.9	2.0	20.6	1.1	2.3	9.6	2.3	5.1					
2nd quintile	27.5	0.0	10.1	8.7	5.8	2.9	27.1	0.8	1.7	18.5	3.4	2.5					
3rd quintile	37.6	0.9	12.7	5.9	14.4	3.4	28.5	5.1	0.0	9.4	5.1	8.7					
4th quintile	31.8	5.8	8.1	8.1	3.5	5.8	31.3	5.4	0.7	14.2	6.8	4.1					
Highest quintile	32.4	1.4	15.1	8.2	2.7	4.1	31.3	3.0	1.5	17.9	2.2	6.0					

* Other includes: traditional methods, LAM, withdrawal

Table 11.3 Percent Distribution of Planned Status of Current Pregnancy in Wave 3 by Selected Background Variables

Women*	n	Planned	Mistimed	Unwanted
Total pregnant	104	50.0	30.8	19.2
Age				
24 and under	43	58.1	25.6	16.3
25 and over	61	44.3	34.4	21.3
Education				
None	56	51.8	30.4	17.9
Any	48	47.9	31.3	20.8
Parity				
0	12	(75.0)	(16.7)	(8.3)
1-3	71	47.9	32.4	19.7
4+	21	(42.9)	(33.3)	(23.8)
STI Result				
GC/CT Positive	4	(75.0)	(25.0)	(0.0)
GC/CT Negative	78	44.3	36.6	19.2
HIV Positive	15	(46.7)	(33.3)	(20.0)
HIV Negative	44	38.6	43.2	18.2
Income				
Lowest 2 quintiles	29	48.3	24.1	27.6
Highest 3 quintiles	75	50.7	33.3	16.0

* As reported by women who are currently pregnant
 () Fewer than 25 cases

Table 11.4 Percent of Wave 3 Women and Men Reporting Current Use of Modern Contraception by Selected Risk/Need Characteristics

Selected Risk/Need	n	Women*	n	Men**
Total	726	17.6	451	20.4
Report STI Symptoms	657		439	
Yes	182	15.4	40	17.5
No	475	19.4	399	20.6
Gonorrhea Test	524		328	
Positive	(7)	(14.3)	(2)	(0.0)
Negative	517	18.6	326	22.7
Chlamydia Test	524		328	
Positive	(6)	(16.7)	(4)	(50.0)
Negative	518	18.5	324	22.2
HIV Testing	391		280	
Positive	81	17.3	52	17.3
Negative	310	20.0	228	23.3
Perceived HIV Risk	696		437	
None	298	18.8	233	21.5
Small	126	15.1	54	15.6
Moderate	97	21.7	53	18.9
Great	105	21.0	80	26.3
Unsure	70	10.0	(17)	(5.9)
Wants More Children	714		442	
Yes	525	17.3	303	18.8
No	140	17.9	83	27.7
Don't Know	49	24.5	56	19.6

* Currently using pill, condom, or Depo-Provera

** Self or partner currently using pill, condom, or Depo-Provera

() Fewer than 25 cases

Table 11.5 Percent of Wave 3 Male and Female Respondents Providing Urine Specimen by Selected Background Characteristics

Variable	Men		Women	
	Provided specimen		Provided specimen	
	n	Yes	n	Yes
Total	451	72.3	726	73.3
Age Group				
17-21		na	169	75.7
22-26	156	73.1	201	69.2
27-31	120	66.7	205	77.1
32-36	59	78.0	149	71.1
37-41	67	73.1		na
42-46	47	74.5		na
Education				
None	123	71.5	326	72.1
Primary	267	70.4	355	72.4
Secondary or higher	61	82.0	45	88.9
Parity				
0	111	64.0	73	69.9
1	87	70.1	165	70.3
2	57	77.2	149	77.9
3	49	83.7	119	70.6
4+	147	74.2	220	75.0
Currently Pregnant				
Yes			104	79.8
No		na	588	72.1
Income				
Lowest quintile	101	67.3	177	71.8
2nd quintile	69	79.7	119	75.6
3rd quintile	118	75.4	138	78.3
4th quintile	86	74.4	148	68.9
Highest quintile	73	67.1	134	73.9

Note: Totals may vary due to missing data

Table 11.6 Percent of Women and Men Reporting STI Symptoms by Selected Background Characteristics: Waves 3 and 1

Variable (Wave 3)	Women				Men			
	Wave 3		Wave 1		Wave 3		Wave 1	
	n	% reporting STI symptoms*						
Total	657	27.7	939	7.7	451	8.9	652	3.5
Age group (F/M)**								
17-21/22-26	149	25.5	206	10.2	151	11.3	221	4.1
22-26/27-31	174	29.9	263	7.2	115	9.6	164	3.0
27-31/32-36	197	28.9	281	7.5	59	8.5	103	3.9
32-36/37-41	136	25.0	183	6.0	66	7.6	89	2.8
na/42-46					46	4.4	67	1.5
Education								
None	285	25.3	447	5.1	120	10.8	180	2.8
Primary	327	30.9	450	9.6	258	7.8	380	4.7
Secondary or higher	45	20.0	37	16.2	61	11.5	88	0.0
Parity								
0	63	36.5	174	11.5	108	13.0	272	5.9
1	150	31.3	225	7.1	84	7.1	102	2.9
2	135	24.4	195	8.2	56	12.5	108	2.8
3	109	26.6	141	5.0	46	13.0	65	0.0
4+	200	25.0	199	6.5	145	4.8	102	0.9
Currently Pregnant								
Yes	93	21.5	84	6.0		na		na
No	536	29.3	598	9.2		na		na
Income***								
Lowest quintile	161	28.0	111	10.8	99	11.1	59	1.7
2nd quintile	107	29.0	167	5.4	68	5.9	103	6.8
3rd quintile	116	28.5	196	9.2	111	15.3	146	4.1
4th quintile	138	25.4	204	6.4	86	4.7	136	3.7
Highest quintile	127	29.1	187	7.5	71	5.6	140	2.1

Note: Totals may vary due to missing data

* Symptoms include genital itching, redness/inflammation of genitals, burning pain on urination, genital warts, genital sores and/or ulcers, foul-smelling discharge and/or lower abdominal pain

** Wave 1 age categories are 15-19, 20-24, 25-29, 30-34 for women and from 20-24 to 40-44 for men

*** Wave 1 income categories are < 1500 kwacha, 1501-4000, 4001-9000, 9001-20000, 20001-40000, 40001+ kwacha

Table 11.8 HIV Prevalence Among Tested Men and Women by Selected Background Characteristics

Characteristic	Men		Women	
	n	HIV+ *	n	HIV+
Total	280	18.8	391	20.8
Age Group				
<20		na	42	9.5
20-24	71	11.3	109	16.5
25-29	58	17.2	117	27.4
30-34	59	15.3	89	24.7
35-39	46	32.6	33	15.2
40-44	31	19.4		na
> 44	(11)	(36.4)		na
Education				
None	78	23.1	169	25.4
Primary	157	17.2	192	19.3
Secondary or higher	45	15.5	30	3.3
Parity **				
0	54	9.3	29	17.2
1	51	11.8	85	15.3
2	41	24.4	88	28.4
3	37	10.8	64	25.0
4+/4-5	52	28.9	125	17.6
6+	45	26.7		
Reports Self or Wife/Partner Pregnant				
Yes	38	26.3	59	25.4
No/unsure	203	18.2	324	20.4
No wife/partner	39	12.8		na
Tests Pregnant (Female Only)				
Yes			35	25.7
No			334	19.8
Income				
Less than 1,500 kwach	(11)	(0.0)	25	16
1500-4000	32	25.0	42	23.8
4001-9000	59	18.6	60	20.0
9001-20,000	107	16.8	80	20.0
20,001-40,000	34	17.7	45	22.2
Greater than 40,000	37	24.3	68	27.9
Missing income			70	14.1

Note: Totals may vary due to missing data

* HIV+ status does not include those with indeterminate test results

** Parity for men represents live births across all unions; parity 4 and higher group refers to men only

() Fewer than 25 cases

Table 11.9 HIV Prevalence Among Tested Men and Women by Selected Behavioral Factors

Characteristic	Men		Women	
	n	HIV+ *	n	HIV+
Total	280	18.8	391	20.8
Lifetime Sexual Partners (M/F)				
0-4/0	98	15.3	(8)	(0.0)
5-9/1	87	17.2	147	10.9
10-14/2	40	22.5	113	25.7
15-19/3	(18)	(22.2)	81	24.7
20-49/4+	25	20.0	42	38.1
50+	(12)	(33.3)		na
Sexual Partners in Last 12 Months (M/F)				
0	29	17.2	61	14.8
1	168	17.3	318	21.1
2/2+	41	24.4	(12)	(41.7)
3+	42	19.1		na
New Sexual Partners in Last 12 Months (M/F)				
0	193	18.7	357	19.6
1	60	18.3	32	34.4
2+	27	18.5	(2)	(0.0)
Report Using Condoms for FP				
Yes	37	10.8	(5)	(20.0)
No	243	19.8	386	20.7
Think Condom Effective for HIV Prevention				
Yes	230	18.3	322	22.4
No	24	25.0	43	16.3
Unsure	26	15.4	26	7.7
Perceived AIDS Risk				
No risk	136	14.7	143	20.3
Small	40	27.5	81	24.7
Moderate	36	19.4	56	17.9
Great	59	22.0	69	21.7
Months Male Partner Away**				
None	233	21.0	330	20.6
1-5/1-12	29	3.5	43	20.9
6+/13+	(18)	(11.1)	(17)	(23.5)

* HIV+ status does not include those with indeterminate test results

** Months away last time for men; months male partner now away for women

() Fewer than 25 cases

Table 11.10 HIV Prevalence Among Tested Men and Women by Selected Reproductive Behaviors

Characteristic	Men		Women	
	n	HIV+ *	n	HIV+
Total	280	18.8	391	20.8
Number of Wives/Partners (Males only)				
1	258	16.7	na	
2 or more	(22)	(40.9)	na	
Currently Practicing FP				
Yes	93	15.1	112	19.6
No	185	20.5	276	21.4
Intend to Use FP				
Yes	65	16.9	96	14.6
No	95	24.2	179	24.6
Not sure	(21)	(14.3)	(4)	(50.0)
Now using	99	15.2	112	18.8
Think Condom Effective for FP				
Yes	246	18.3	307	21.2
No	(15)	(26.7)	52	25.0
Unsure	(19)	(15.8)	32	9.4
Want A/nother Child				
Yes	185	14.1	268	22.0
No	59	22.0	90	15.6
Not sure	30	30.0	26	23.1
Wife not able	(6)	(66.7)	(6)	(33.3)
Perceived Infertility				
No difficulty getting pregnant	185	18.4	296	18.9
Think self infertile	(6)	(33.3)	(13)	(53.9)
Do not think self infertile	68	19.1	64	21.9
Not sure if infertile	(21)	(14.3)	(18)	(22.2)

Note: Totals may vary due to missing data

* HIV+ status does not include those with indeterminate test results

() Fewer than 25 cases

Table 11.12 Pregnancy, STI, and HIV Prevalence in Waves 1-2 and Wave 3

Condition	Men		Women	
	Wave 1-2	Wave 3	Wave 1-2	Wave 3
% Pregnant	--	--	12.5	10.8
% Gonorrhea	6.2	0.6	3.6	1.3
% Chlamydia	5.8	1.2	4.9	1.1
% Both	1.3	0.3	0.5	0.4
% Either	10.7	1.5	7.9	2.1
% HIV+	--	18.1	--	20.0
% HIV Indeterminate	--	2.8	--	3.2
% HIV+ or Indeterminate	--	20.9	--	23.2

Note: Among consenting women aged 20 to 34 years and among consenting men aged 20 to 44 years

Chapter 12: Focus Group Discussions

This chapter summarizes findings from the 21 focus group discussions carried out in the 13 enumeration areas in Mangochi district from May 5 to May 18, 2002. Four reproductive and sexual health areas were explored: pregnancy avoidance, STI and HIV avoidance, prevention of mother-to-child transmission, and infertility. No survey respondents were included as focus group participants, but participants needed to have lived in the study communities for at least one year. The composition of focus group (FG) participants included women and men in the same eligible ages as the survey sample, community leaders, and mothers-in-law. The discussion guides are provided in Appendix 3, and the summaries below are derived from the reports prepared for each of the four themes.⁸

Pregnancy Avoidance

Fertility Cycle

The FG discussions reveal that strong misconceptions regarding the fertility cycle, reproductive physiology, and contraceptive methods prevail among the community participants. Few participants had correct knowledge of the fertility cycle and timing of pregnancy. Some male participants identified the time of highest conception probability in the cycle as two days before menstruation, six to seven days before menstruation, one to two days after menstruation, when women start menstruating, and when women have sex for

⁸ The authors of this chapter are Rinko Kinoshita for “Pregnancy Avoidance,” Thomas Bisika for “STI and HIV Avoidance,” Joseph deGraft-Johnson for “Prevention of Mother-to-Child Transmission,” and Janine Barden O’Fallon for “Infertility.”

the second time. One male described the mechanism for pregnancy as:

...Women do have eggs in her body just as good as chickens. So when the egg is matured, it enters into the uterus. Before she starts a period, (if) the egg is matured and by chance she meets a man’s seed, she becomes pregnant...

Not a few male participants agreed that pregnancy depended on “God’s plan/grace” and that “nobody can plan it.”

...Becoming pregnant is God’s plan. Otherwise when a man and woman sleep together in a house, nobody knows that will happen. You just discover one is pregnant.

Female participants were not appreciably more informed about the optimal timing of conception, citing conception most likely: any time in the menstrual cycle, two days before menstruation, when women have sexual intercourse, to menstruating women old enough to become pregnant, and when women have continuous monthly periods (continuously bleed). Adolescent females tended to be least informed about the fertility cycle and mechanism of conception. However, a majority of the FG participants recognized a woman could become pregnant at first sex and during breastfeeding.

Since the communities predominantly belong to the Yao tribe, several beliefs related to postpartum abstinence were shared by participants:

...When a lady has just given birth and is breastfeeding, we don’t sleep

with her. We are afraid of contracting a disease called “kanyera.”

...We agree [*in chorus*]. Among us Yaos, one is not allowed to sleep with a lady who has just given birth until the baby is 6 or 7 months old. Then we take herbs, drink them, and thereafter we start sleeping with the lady.

...The condom bursts open if a woman has a baby (because) if she has just delivered, the woman has a lot of heat [*pointing to the birth canal*].

Contraceptive Methods

Although modern, rather than traditional, FP methods were first mentioned in all groups, a number of traditional methods were also mentioned as being used in these communities: traditional medicine fluids made from leaves or small sticks, strings tied around the woman’s waist, and the chewing of sweet peas thought to prevent pregnancy for one year. Strings tied around women’s waists were the most commonly mentioned traditional method across all groups. According to participants, if women lose the strings, they can become barren or bleed continuously; and to become pregnant, they need to seek out traditional healers to remove the strings.

Male and female participants mentioned different means of abstinence, for instance, letting the husband travel away from home for the purpose of spacing children, encouraging couples to sleep with children, having children sleep between the couple, and letting partners sleep in different rooms. However, other participants cited the difficulty of remaining abstinent.

The most common FP method mentioned by participants varied. Men mentioned the

condom and “tying a string around a woman’s waist;” women did not mention the condom, however, but rather injectables (Depo-Provera). Reasons given included reliability, effectiveness, fewer side effects than other modern methods, and quicker reaction than pills. Personal experience with method use (i.e., condoms by men, injectable by women) appears to be important for reported use, indicating that overall contraceptive use may be underestimated by relying solely on reports from one gender.

Benefits and Costs to Contraceptive Practice

Some male participants regarded too many children as a problem in terms of material needs and child health, as a reason for controlling the number of children:

The reason (to use methods to avoid pregnancy) is that when children are born closely it happens that the elder child becomes sick or even dies... The child becomes sick now and then, even malnutrition and eventually dies.

...10 children in a family, you don't have food (maize) even clothes, you are like a slave. How will they sleep?

However, not all were equally supportive:

Some of us afraid that when you practice family planning, it means you will have two or three children. So when death comes you find you are remaining with one child. We feel it’s good not to use a condom so that you should have as many children as possible that when you grow old they will assist you.

Female participants also agreed that the reason of using FP is for children to “grow

well” and healthy. One adult female suggested that they are supposed to space their children for family development. In addition, young female participants emphasized birth spacing as a reason:

If they are well spaced, a mother is free, she can work and carry out all sorts of activities without any problem.

(If children are not well spaced) the younger child and older one both may want the same attention like they may both want to be put at the back of the mother...that's impossible.

Participants cited quite a few disadvantages of modern FP methods: male partner's disapproval, low female education, and barriers at health facilities. A number reported mistaken beliefs about modern FP methods — women becoming infertile as a result of using contraception, developing pimples (from pills and injections), or experiencing weight loss (from injections) which carries the risk of HIV stigma:

...Some don't like modern methods because some become thin whilst in (using) the method and people start saying that she is suffering from AIDS because of the loss of weight. So they prefer not to take them.

Female participants stressed that modern FP methods may make them sick. For example, injections may cause severe or frequent vaginal bleeding, pills may make them have many children, and Depo-Provera may stop menstruation. Weight gain/loss was commonly mentioned by both male and female participants as a consequence of contraceptive use.

When you are using an injection as a family planning method you develop severe vaginal bleeding, so you see no point of using family planning method...you go to someone who knows traditional methods of family planning...

One female participant cited the advantage of traditional methods: “it can be removed at any time and fertility returns quickly.” Yao tribal elders and peers are also influential in shaping attitudes:

It is like this, if we reach this age about adolescence period, we are called by our uncles and other elders who advise us how to live, so we listen to what they say to us.

Women discourage each other. Some women say that they (family planning methods) destroy people, so if you hear that you decide not go to the hospital. Some women tell their friends not to use family planning methods.

Barriers to using health facilities cited included the long distance, women's “shyness” to go to the hospital, and fear of the side effects of methods obtained at hospitals.

Couple Decision-Making

Most of the male participants agreed that husbands (men) should decide the number of children because they are the ones who are responsible for making money in the family. When asked about the responsibility to use FP, however, all agreed that the wife should be responsible for FP use because they are the ones who get pregnant. Women's health was also mentioned as a reason why women should be responsible: too many children “keep mothers busy” and the mothers may

“get old” at an early age. One participant mentioned men being inadequately informed, such that women have to take responsibility for contraceptive practice. Other men mentioned the lack of empowerment of wives, compared to husbands, in Yao culture:

...Ladies are not free to suggest anything in the house but rather take instructions from the man.

Female participants varied on whether they felt men should have decision-making power on the number of children. Some suggested that men should plan for a manageable number of children since they have to provide for them and keep the family “happy.” Other women said they themselves should have decision-making power since they have to “suffer” labor pains and childbearing and need to protect their health. One participant said that she had to “pray to God” in order to convince her husband to use FP.

In the discussions, women mentioned concealing FP use from their husband. While male participants perceived most FP users as unmarried women who did not conceal contraceptive use, married women reported not telling their husbands because they were afraid of the potential consequences — divorce or “disturbance” between the couple. One male participant suggested that husbands might be suspicious their wives would have extra marital affairs if they revealed FP use.

Condom Use

Perceptions of the condom and circumstances for its use varied widely and by gender. Because of the method’s frequent use by men and selective use by women, as well as its required consistent use to be effective in protecting couples from

STI and HIV transmission, we share the range of FG commentary obtained.

Male participants cited condoms as the most popular FP method because of its convenience and low cost. Some regarded condoms as a “short cut” or “highway” method that enabled them to have sexual intercourse with several women each day. Other participants mentioned condoms were used only at bars and some said only in towns for casual sex.

In this village [*name*] few people use them (condoms) but if you go to [*name*] because it is in town, more (people) use condoms because they meet new ladies. Here we are used to the ladies we meet and we know them so we opt not to use condoms.

Some participants mentioned AIDS transmission risk associated with condom use:

Family planning is important but some of us do doubt that there should be AIDS right in a condom.

I opt not to use a condom because whether in a condom or not, there is always danger of contracting AIDS through it or the wife getting pregnant so this makes family planning difficult.

The noteworthy fact was that participants in all groups commonly mentioned condoms may “burst inside,” “enter uterus,” and “get stuck.” As a result, it may transmit STI, may require an operation, or may cause death. The strength of such comments in the FG transcripts indicates they represent widely shared community beliefs. According to one woman:

...People use condoms because ladies from this village don't like men who use condoms because they say it cause sores and sometimes it bursts and can enter into their uterus. Few people who have died here are said to have died because a condom burst to her uterus. So because of that, ladies here don't like condoms.

Some men and most of adult women agreed that they "do not feel good" or have "less pleasure" if they use condoms. Adult women suggested that they "cannot eat sweets whilst they have a cover" if they are using condoms.

...When you are taking sweets in its wrapper you can't feel the taste. So sex in a condom, we don't enjoy it.

Most people say they cannot eat sweets whilst they have a cover. They have to remove the cover to have more satisfaction.

...They (men) don't like it (condom use) because they don't feel satisfied. Some say they feel they have just wasted their sperms.

In terms of condom use between regular partners, most participants agreed that they would think their partner might have STIs or they did not love them.

If women say we should be using a condom in a house, it will be difficult because the man will feel denied that the woman doesn't love him and that that she doesn't want to bear a baby from the husband.

This (condom) can cause some quarrels and misunderstandings especially if it is discovered that the

woman is pregnant though the man was using a condom...maybe it burst and (impregnated the wife ...he will (be assigned) responsibility.

Some women felt their husbands suggested condom use because of "bad will:"

...The wife will ask you that all these days we have not been using condoms, why today? She can sometimes pack her belongings and say I am going home....I can not be here using condoms because may be it will burst and enter into my uterus.

Other female participants mentioned accepting condoms because they were afraid their husband would have extra marital relationships if they refused. Some suggested that condom use might be regarded as a lack of trust between the couple.

Sometimes it's females who refuse if the man uses a condom then (they say) it's not love and I am not a woman. They would say remove the condom and throw it away and come without a condom.

Few male and female participants mentioned condom use during breastfeeding. Sexual intercourse tends to be suspended for first six to nine months after childbirth because they believe women have "a lot of heat" after delivery.

Condom use during post menopause was mentioned only by a few females, where use depended on perceptions of the husband's sexual life: if he has many partners, a menopausal woman might accept condom use to prevent STIs.

Family Planning Services

Participants were asked about how FP services could be improved. Suggestions included focusing on females versus males, youth versus adults, local versus non-local health workers, in and outside community sites, free versus nominal fees, clinic-based access versus household distribution, and provider attitudes.

Some male participants emphasized that FP services should focus on women, while others said men should also be involved:

I feel the government should give family planning methods to ladies. Because we men find it difficult to stay without doing sex. If you stay two or five days, it's just as if you have stayed for a year. So whether it will be injections or pills, it should be a lady (being responsible).

If family planning is to be meaningful, then men should be involved and advised. As of now, it is ladies only who get advice from health workers, yet it is difficult for them to come to the house and tell a man what to do because she is not the head of the family.

Male participants emphasized the importance of "education" on FP as well as "civic education" and recommended using video shows, drama, and choruses to disseminate information concerning STIs and FP methods. Some participants mentioned that youth organizations should be educated about FP first, rather than adults:

...We find it difficult because it (civic education) has been introduced to us whilst already matured.... If we can have youth organization and start

teaching the youth, it will improve our knowledge.

You could train one youth from our own village. People will have interest in him and we will find it easy to adhere to his instructions and we will even be able to go to him at night and take a (family planning) method easily...

A few men suggested community health workers in charge of FP education should be from different areas while others thought they should be local residents to facilitate entrée.

...If he comes and speaks a different language from ours then we will only say yes, but you find nothing is happening because of poor communications. So it is important that one from this area should be trained and given the equipment so that they should be just within us.

Women expressed a preference for frequent "door to door" campaigns for FP by community health workers (i.e., health surveillance assistants) or counselors. Others mentioned group or film-based health education sessions and keeping FP services separate from other services. Male participants encouraged a range of method choice, as well as cheaper prices for condoms, if not free. One young female mentioned FP services should be free and that people even fail to pay the 15 kwachas (about US20 cents) needed for a health booklet:

At health center, they charge 15 kwachas for a health booklet, so if you do not have it, you do not receive any medication. If you want to start charging for family planning

services, we are going to have problems.

Young women suggested providers should be “kind,” “polite,” “cheerful,” and “not frighten the women.” One mentioned that providers were “harsh,” which discouraged women from using FP methods.

STI and HIV Avoidance

Several sub-themes were explored in the STI and HIV avoidance FGDs, including disease awareness and knowledge of the symptoms, means for preventing transmission, personal responsibility and risk, and perceptions of voluntary testing, counseling, and treatment (VCT) services.

STI and HIV Avoidance

Most adult male and female community leader and youth participants were aware of STIs and HIV, as well as their symptoms and signs. Infections most often mentioned spontaneously in all FG discussions were buboes, syphilis, gonorrhea, and HIV/AIDS. In addition, male participants at Liwiga and female youths at Malindi cited kanyera as another disease spread through heterosexual relations. Kanyera was described as an STI contracted when a man has sexual relations with a menstruating woman or a woman who is still in her postpartum abstinence period.

Participants reported that a person suffering from HIV/AIDS becomes thin, appears weak and has pale hair, purges frequently, suffers a loss of appetite, has frequent headaches, and the person’s fingernails and toenails become long. A person suffering from gonorrhea or syphilis feels pain in the genital organs when passing urine and the urine is mixed with pus. Buboes cause sores in the private parts, while kanyera causes

fever and headache and a patient walks with difficulties.

HIV/AIDS was singled out as the most dreadful STI. Many FG participants reported that the HIV/AIDS scourge has seriously affected their communities. Many people, especially young adults, have died and continue to die from the disease, leaving many orphaned children. With no cure for HIV/AIDS, one participant said of the disease:

This disease (AIDS) has reached a difficult stage; we are not sure whether we will survive or not because our children are dying.

For buboes, syphilis, kanyera, and gonorrhea, the participants indicated that, when early medical attention is sought, people fully recover from the infections. However, these infections can result in either permanent disability or even death. Some participants mentioned kanyera being better treated by a traditional healer, while other STIs are better handled by the hospital.

Transmission Modes and Prevention Means

The most commonly cited mode of STI transmission for all infections was heterosexual relations, especially when uninfected persons have unprotected sexual intercourse with infected persons or have multiple partners. Besides sexual relations, HIV/AIDS was reported to be spread by sharing razor blades, unsterilized needles, tooth brushes, safety pins, and bathing soap. Participants also knew that an HIV-positive mother could transmit the virus to a child during pregnancy, delivery, or breastfeeding. Mention of witchcraft as a cause of STIs or HIV/AIDS was rare.

One cultural practice mentioned to incur transmission risk was initiation ceremonies.

During these ceremonies, adolescents learn how to become responsible adults. In the past, the *Nankungwi* could use one razor blade or safety pin for all initiates during initiation ceremonies. If one initiate had the HIV virus, it could spread to the rest of the members of the group. Participants mentioned that to reduce the risk of transmission, initiates are now advised to bring their own razor blades. Another cultural practice mentioned was “fisi,” a practice where one man is asked to sleep with the young girls who have just been initiated. A related practice among old women is “msondo.” At these initiation ceremonies, women sleep with men who are not their regular partners. It was also reported that in some communities a widow is made to have sex with a man after 40 days following the death of her husband. Polygamy was another practice reported by participants to contribute to the spread of the STI, since once one partner in the network is infected, other sexual partners can contract the disease.

Other practices mentioned were “gule wankulu” (big dance), a gathering at which people are entertained by masked dancers until late at night. Some people will sneak out for sexual relations during or after the function.

Several other practices were mentioned as not being common but significant in the possible transmission of HIV/AIDS and STIs. These included the practice of washing dead bodies without any protective clothing (“kusambisa maliro”), marrying a brother’s wife when the brother dies (“chokolo”), cultural dance and religious festival (“siyala”) where men and women spend the night dancing, and the practice of scarification (incisions) by women seeking to enhance their beauty and attractiveness to men.

In most of the FGDs, the participants reported that, unlike in the past, the majority of the people now openly discuss sexual issues in families, between husbands and wives, and among friends. During gatherings, for example, when playing bawo, at entertainment places, spiritual gatherings, bicycle repair shops, or memorial feasts, people in the communities advise/counsel one another on STIs, particularly HIV/AIDS. They share information on ways to control the spread of infections. A married male FGD participant said:

In the past, there was no problem. Now with the HIV/AIDS virus, things are not well. We tell each other that what is important is to think about our wives; they satisfy our sexual desires. We do not have to admire other people's wives or the unmarried because we do not know their sexual behavior. If you want to travel, you can do so, but do not engage in promiscuity. So in our lives we have to think about these.

Participants reported issues of STI and HIV/AIDS being commonly discussed by religious leaders in churches or mosques, by politicians during political meetings, and by traditional leaders during village meetings. These community leaders are reported to advising about the need to abstain from sex, use condoms for safe sex, and avoid sharing razor blades, toothbrushes, and bathing soap. Married people are counseled to be faithful to their partner. Those unmarried are counseled to abstain from sex until they marry and then to practice fidelity.

Discussion of STIs between parents and their children was reported to be rare. However, some participants observed that parents and children could have open

discussions on STIs if mothers talked with their daughters and fathers with their sons.

While most members of communities were reported to be taking measures to avoid STIs and HIV/AIDS, some were not. The most cited reasons for not being concerned were:

- AIDS is here for people and not animals — nothing can be done to avoid it;
- stubbornness — some people don't just listen to other people's advice;
- if you use condoms, you don't have good sex — a sweet eaten in paper is not sweet; and
- others do not take AIDS seriously.

Personal Responsibility and Risk

FGD participants were asked who should take responsibility in STI avoidance in a family — the man or woman. In most groups a man was reported to have more power and responsibility in STI and HIV/AIDS avoidance, since he was the head of household and husband. Some participants, however, felt that it should be a responsibility of both the husband and wife. The most cited reason was that, in a sexual relationship, should a husband or wife get infected, the risk of the other partner being infected is very high. Participants reported that couples needed to be faithful to one sexual partner and consistently use condoms should they decide to have sexual relations with non-regular partners: “In making decisions on prevention, the man should take a leading role;” “A man is a head of the family and is also feared by the wife;” and “Usually, it is the man who goes out proposing to women.”

A few participants felt that a woman had a role initiating discussions on prevention of STIs: “A woman has power to say no or yes if proposed.”

Youth participants reported males and females having equal power initiating STI avoidance, but girls reported they had more responsibility for prevention of pregnancy since they are the ones who can become pregnant.

In terms of initiating sex, the FGDs show that, in most cases, men take the lead, whether within or outside marriage. In their capacity as family head, men are reported to initiate sexual activity: They are the ones who desire sex more; a woman has no power to refuse; her role is to accept what her husband proposes. However, some FGD participants felt that either man or woman could initiate sex.

When they are in relationships with sugar daddies or mommies, youth participants reported that their partners make all decisions regarding sexual matters: The sugar mummies or daddies have material and financial power; and the young boys or girls only accept their proposals.

All participants indicated that, in general, everybody — male or female, young or old, poor or rich, married or unmarried — were at risk of contracting HIV. Female participants cited married women at much higher risk of HIV/AIDS infection but not necessarily other STIs. Having multiple sexual partners was mentioned as a key risk factor in the spread of HIV/AIDS. Most participants singled out sex workers and promiscuous men, women, girls, boys, and polygamous unions as groups of people with the highest risk of contracting STIs and HIV/AIDS. Poor women and girls were also cited as another high risk group. Because of

poverty, women and girls might sell sex in exchange for financial and material rewards.

Voluntary Counseling and Testing Services

Asked about their awareness of VCT services and the benefits of being tested for HIV/AIDS, participants indicated a desire to be tested and informed of the results. Some mentioned that HIV testing is only available at MACRO in Blantyre and wished for access closer to their communities. FG participants mentioned not only the benefits of testing but also counseling: You take measures not to spread the virus; live positively and maintain good dietary habits to prolong your life expectancy; learn to seek medical attention; learn preventive actions to avoid infection; and learn about the need to change sexual behavior.

The most common sources of information on STIs and HIV/AIDS mentioned in all FGDs were hospitals, radio programs, talks by health workers, and political and village meetings. In addition, youth reported learning about STIs at school, hearing elders and mothers talking about them, reading about them in newspapers, and seeing male adolescents suffering from the diseases. Several mentioned that as the AIDS epidemic takes its toll, no village is unaffected, which means that villagers have the unpleasant experience of seeing their friends and relatives suffering from AIDS.

To intensify the campaign against STIs, FG participants suggested the formation of community-based groups to sensitize people about the dangers and modes of STI transmission, availability of pamphlets/booklets on HIV/AIDS and other STIs as supplementary reading materials, and talks in communities by hospital personnel.

Community Impact

Participants reported there were no organized services to support orphans, infected people or affected families. Only in Malindi village was an orphan care center reported to be available. Participants said that their communities could not give support because of poverty and that they wanted condoms and pills as part of the HIV prevention package.

Asked about relationships with PLWAs, participants reported that HIV/AIDS patients are not stigmatized or discriminated against. Participants mentioned that community residents sympathized with their situation, prayed for them, looked at them as friends, and gave them encouraging words. As one male participant put it:

Men do not despair much, being found with the virus does not mean the end of your life.....but you can be eating good foods to prolong your life.

Prevention of Mother-to-Child Transmission

Nine FGs were held with various representatives from the study communities, drawing upon male and female community leaders, adolescent females, mothers-in-law, and both married and single men and women. The discussion areas were modes of MTCT and prevention of MTCT, VCT for pregnant women, and breastfeeding practices.

Mode of MTCT

Almost all participants mentioned sexual intercourse as the major mode of HIV transmission. Other transmission modes mentioned were the use of razor blades during initiation ceremonies, treatment by traditional healers or traditional birth attendants, and witchcraft. Most

participants also mentioned that the virus is transmitted from mother to child during pregnancy. Few, especially the mothers-in-law, thought that transmission could occur during delivery or through breastfeeding. The most common belief, however, was that an HIV-positive woman would “automatically” give birth to a HIV-positive baby:

Is it possible for a woman to be HIV-positive and then deliver a baby who is HIV-negative?

Once an HIV-positive woman gets pregnant it means the pregnancy is also affected. The baby that is developed would obviously have contracted the virus. So there is no protective measure to put in place.

That is a lie, a mother with HIV, how will a child be born without HIV?

...Because the baby is in the womb, she uses the mother’s blood.

...A baby born of a HIV-positive mother is also HIV-positive.

VCT for Pregnant Women

Group members were asked about the acceptability of HIV testing for pregnant women, challenges likely to be faced, and support such women may or do receive from their spouses, families, and communities. Possibly through radio advertising of VCT, many group members were aware of the availability of VCT services; however, most participants mentioned that people go for testing only when they start to feel ill. Some mentioned lack of access, as the only VCT center is at the district hospital, many miles from the study communities.

People here do not go for the test. They do not decide to have the HIV test but when they become sick, maybe for one year, then they decide to go...To receive treatment when they decide to have the test, it is too late.

Acceptability of VCT by pregnant women was mixed. Participants felt some pregnant women would “run away” and not use the services. Many identified the husband or male partner as a key player in the decision-making process as to whether the pregnant woman would be tested or not. The wife would need the husband’s consent before going for an HIV test and, contrary to expectations, mothers-in-law have a limited role.

The husband is the one who can tell her, the mother-in-law, that ‘my wife and I’ have decided to go for testing.

If the mother-in-law were to ask the wife to go for an HIV test without the man’s permission, “the man would leave, end of marriage.” Most participants believed that husbands who perceived themselves to be virus-free would be more likely to consent to their wives being tested, than husbands who were HIV-positive.

Pregnant women are also thought to face psychological barriers to testing — fear of testing positive. Participants thought the stress of learning one’s positive status would shorten the person’s life, as well invite stigmatization and divorce, although not all members thought divorce would be automatic.

You will not have peace of mind from that moment on. It is better to live in doubt.

Man by nature loves himself, so to go and get tested and be told you are positive is really devastating.

Men of this village would automatically break up the marriage.

There are men who really love their wives. Even if they are told that the wife had gone for an HIV test and has been found positive, they would still take care of her.

If this pregnant woman announces her intention to get tested for HIV, even if the results come out negative, people would still label her positive — that she would get AIDS.

Participants felt that pregnant women would be motivated to get tested if they knew there was medication that could prolong their lives and prevent them from infecting their babies with the virus. There were no clear suggestions on how the family or community could support women who test positive with the virus. Most participants said their families would take care of them. The key strategies suggested by most participants to promote the use of VCT services among pregnant women were to conduct community sensitization through village meetings chaired by the village headmen, and to get families to advise pregnant women to go for HIV testing through one-on-one counseling.

Prevention of MTCT

Knowledge of how to prevent mother-to-child transmission of HIV was very limited. Very few participants were aware of the existence of drugs that could be given to HIV-positive pregnant women to reduce the risk of transmitting the virus to their babies. Those who were aware said they had heard of the drugs on the radio but did not know

their names. Most participants mentioned abstinence and getting tested for HIV as key strategies for preventing mother-to-child-transmission. There was a general belief that transmission of HIV from an HIV-positive mother to her baby could not be prevented because her child would definitely be positive. The statement “The baby is born with HIV, so how do we prevent it?” summarizes most participants’ belief of inevitable MTCT.

Breastfeeding

To understand community attitudes toward HIV-positive women who might opt not to breastfeed, participants were asked to discuss circumstances that might prevent mothers from breastfeeding and community attitudes toward these mothers. Alternate infant feeding options, including surrogate breastfeeding for women who chose not to breastfeed, were also discussed.

As expected, almost all FGD participants reported that women breastfeed their infants. The following reasons were given for the few infants not breastfed: The mother died or was very sick; she had boils or sores on her breasts; the mother had an inadequate amount of breast milk; the mother was working; the infant was premature. Most infants with living mothers are at least partially breastfed.

Current protocols recommend infants of HIV-positive mothers either be exclusively breastfed or not breastfed at all. Participants were not aware that exclusive breastfeeding could reduce the risk of MTCT of HIV. However, mothers who opt not to breastfeed are very likely to be stigmatized, as illustrated in some of the participants’ statements:

When a child is born, the first thing the mother does is to breastfeed with pride.

You can not say do not breastfeed. From where would there be something to help the life of the child?

She is seen as a witch who wants to kill the child.

They scold her as to how could she be so mean not to breastfeed her own baby.

In terms of the practice of surrogate breastfeeding, the participants confirmed this was a widespread practice in the study areas:

So long as one has a baby. No problem, she just takes off her baby after breastfeeding and puts on the other one.

The infant would normally be breastfed by the mother's relative, often a sister. There were mixed responses when participants were asked whether surrogate breastfeeding could be used as an alternate feeding option for an HIV-positive mother. Some felt it could be used if the baby was tested for HIV before being given to the surrogate mother, since the latter might be afraid of contracting HIV from the infant. Fewer participants mentioned having the surrogate mother tested for HIV before initiating breastfeeding for the baby. Others mentioned there was no need to promote alternate feeding options for infants of HIV-positive mothers since they would be already infected.

A few women reported it was not a practice in their tribe:

If one starts breastfeeding the baby who is very young and not hers, at the same time she sleeps with her husband, that little baby will die because we have contaminated the child.

Knowledge as to how HIV is transmitted from mother to child is limited in this rural district. Popular belief that once a pregnant woman is infected with the virus, her baby will be born infected runs contrary to scientific evidence that only 15% to 20% of babies of HIV-positive mothers actually become infected in utero. Despite widespread knowledge that a pregnant woman can transmit the virus to her baby during pregnancy, none of the participants mentioned the use of condoms during pregnancy as a means of preventing the baby from becoming infected with the virus.

Infertility

Four FGs of men and women (two each) discussed attitudes towards infertility. At the beginning of each group, participants were asked to think about family size and the ideal number of children. Overall, it was clear that large families were valued in these communities. However, men in Mosiya noted that the high regard for couples with many children was the root of recent community problems, such as the inability to properly care for and feed children.

Childbearing has no limit. It is controlled by nature. But according to the problems faced nowadays, it seems over population has taken its toll. Now when the older children have grown up, they begin to leave you and you still can have the young ones around and that tends to ease the problem...

Some are having only two but orphans are on the increase. Feeding them is a hard task if the family they are taken into is already big.

The ideal spacing between births varied from “the moment the first child begins to walk” to three or four years. One male participant cautioned that if couples waited too long between births, the woman might become infertile in the meantime.

There were conflicting attitudes towards families who had only one or two children. According to some, such families were admired and seen to have used FP, and the women were “free to participate in community help work.” As one male participant in Mosiya suggested, “she is better off, she is respected. It is only that she has encountered problems. She is not booed just because she only has one child.” However, the men’s group in Lungwena felt that such a couple would be seen to have “dried up,” and that the paternity of the children would be questioned.

Several concepts emerged in the group discussions related to causes (promiscuity, STIs, uterine problems) and consequences (stigma, marital discord) of infertility and means to address it (assisted impregnation, treatment).

Promiscuity and STIs

Difficulty getting pregnant was a common concern in these communities. The reasons given for fertility problems included STIs such as gonorrhoea, syphilis, buboes, and HIV; natural causes (such as God’s will); and being bewitched. Promiscuity emerged as an issue in every group. Women’s groups also offered uterine problems (such as an inverted, weak, or burnt uterus), painful menstruation, repeated abortions, drunkenness or weakness in men, and

shingles as possible causes of fertility problems.

Men are of different sizes. Some are hot, some cold, and others have many sexual partners. Therefore, if he is hot, he can burn the uterus [*laughs*]. Therefore the uterus turns and the sperms go in another way.

Both women and men mentioned that promiscuity while young would lead to the contraction of STIs and subsequent infertility.

...In terms of men, especially we boys, when we become so promiscuous with women and then get sexually transmitted diseases, it happens that we do not know what disease we have contracted. So when the disease gets settled in our bodies, then it affects our reproductive system, which is a fertility bank.

...Because of lack of abstinence, we the youth contract STIs which are not even recognized. So when this gets distributed throughout our bodies, our ability to reproduce becomes affected. Another reason why we fail to bear children is due to God’s will. This is beyond the control of human nature. You’re just created like that. However, most of us, we are spoiling ourselves.

Stigma

Not surprisingly, given the high value placed on having large families, infertile individuals are stigmatized in their communities. As observed by some male participants:

So he just stays without showing his manhood, they regard him as worthless. If he went for a walk with

friends, he could tell them that all the people of his wife's side do not feel happy with him. As a result, he does not like to go and meet these people again...

Instead of going there during the day, you then change and go there with dusk.

You then resort to going home during the night, as at times the issue becomes as bad as to the point that even children in the village come to know that this man (laughter) is useless.

Women were also reported to mistreat infertile husbands, as seen in the exchange below.

[Participant] There happen to be a lot of problems. In the morning they would prepare tea, early in the morning, with the intention of excluding you.

[Another participant] On your own, you take pots and prepare meals. This is for fear of not getting starved in the house.

[Moderator] Taking pots on your own?

[Participant] Yes.

[Another participant] That is true. It might be (that) gender equality is there for a man to prepare meals too. But this is not the type of this gender equality. They just take you as their toy to play around with at the home, since the man is not well regarded.

Infertile women were said to be belittled, mistreated, and isolated by other members of the community, while infertile men were seen as fools and failures. Childless women

are not considered adults and, thus, are prevented from participating in village ceremonies such as initiation rites for young girls. Women's FGs also expressed feelings of acceptance or pity towards women whose infertility was not "of their making." Conversely, no such sympathy was expressed for prostitutes, because their infertility was seen to be due to their own choices. Such women are "just laughed at."

...She is very stigmatized, she is isolated.

According to our culture here among the Yaos, she is considered as a child. She is not allowed to witness such ceremonies as initiation. She is not a free person. People make fun of her when moving around. Even among her friends she is a worried person. Since she has no child, if there are any initiation gatherings, she does not take part.

Some mentioned the pressure on men to perform:

There are some who can not even dare have a relationship since people are always on his back, keen to see whether he can deliver wheresoever...what will happen this time? If it fails there, he knows he is the infertile one.

Marital Discord

The relationship of the couple is seen to deteriorate as frustration and worry about the inability to reproduce enters the marriage. Discord arises, as seen in the following exchange between male participants and the moderator:

[Participant] Since when the couple is married, it's expected to conceive within the first six months.

[Another participant] God's gift has to come.

[Participant] After the day of marriage, everybody is expectant that they will see a child.

[Moderator]: But how, when will it come?

[Participant] If at all he is a real man.

[Another participant] And then if some months elapse they tend to ask that what is happening, what is wrong, what are you doing with that new and beautiful lady. Are you just keeping her?

[Participant] Finger-pointing starts.

[Another participant] So if it's a young lady, she will go like, all my friends have kids. Eventually they divorce or separate.

Some men, such as those who have received more education or those who are wealthy, are thought to be more accepting of infertility. Likewise, women are more likely to stay with infertile men if they are well-to-do.

...The situation is a bit different when the man is well-to-do. It's like a source of survival and kids will be sought from extra marital relations by the woman.

Marital Responses to Infertility

Couples who experience infertility can "just accept what God has given them," divorce, separate, or bring another wife into the household. While staying together is mentioned as a possibility, the group

discussions tended to focus on the actions that the couple can take.

...When I was chatting with friends, they had their babies on their backs, so I was envying them. The way they were running with their mothers on the other side, what else could I do? I was so envious. So if you are failing to impregnate me, it is better for you to leave so that somebody should come and take up your place. May be that one would be able to give me a child. You could as well go and try somewhere else. It appears the two of us are failing. What could one do apart from getting together your luggage and leave?

Child fostering is a possible solution, though the couple may not receive the same degree of respect as other parents. Infertile women might be given their sisters' children to raise: "Child fostering comes in after failing for a longer period of time."

The lady badly needs a child so that she can also send her for initiation. Her friends are happy but she...is very unhappy.

She can even call for a child from somewhere and say, I will bring it up until I take (it) for initiation ceremony.

Since she has been witnessing it for others now, when her turn comes, she has nothing to offer. So she just decides to call for a child from somewhere and her friends may witness on her.

All of the groups discussed the various ways in which family members influence a

couple's decision-making on how to resolve the problem. Family members play an active role encouraging the husband or wife to separate or divorce and seek new partners who can help them bear children, or to seek assistance from a witch doctor.

Assisted Impregnation or Extramarital Conception

Means of impregnating the wife were mentioned by both women and men. Women, with the help of female relatives, can secretly find another man to impregnate them. Men mentioned relying on a "hyena," a man who sneaks into the house to have sexual relations with the wife but reported this practice had died down due to risk of increased infidelity and disease.⁹

...They tell me, friend, you're failing in performing as a man in your family — up to three, four years without any tangible results. Let me escort you somewhere, where there is a certain man I know. Sometimes it would be your elder brother advising that, young brother, it's now a year without showing anything. It is a sign of failure. You then start having concoctions, then sometimes it works. (Then) you just hear the woman saying I have had menses. At times there are special people who travel mysteriously during the night to do the job for the

⁹ In fact, the hyena tradition is invoked when a woman's child dies and subsequent sex with her husband can be fatal to him. Sex with someone other than her husband is then needed to neutralize or purge the mortality risk she poses to her husband. Participants blended their discussions of extramarital relations with the hyena practice, citing cases where the hyena and the woman became more involved, and with the practice of husbands permitting other men to impregnate their wives when faced with possible infertility.

man. It happens two to three days, the woman misses her menses.

Because a tradition like hyena was bringing disrepute in the house. It was difficult for him to get out of it.

The relationship between the hyena and the wife of the young man became difficult to terminate. [*The hyena and the wife developed a serious extramarital relationship.*]

This person who has come in would bring you diseases. It could happen that the two of you in the family, you were faithful to each other, never engaged in extramarital sexual activities. So if this one brings the diseases and you, as the real husband of the wife, comes in, you contract the diseases. The two of you in the family are now in problems. These are what our forefathers were experiencing. We have since abandoned them but there are other practices which we are still using.

Impregnation of the woman by a male relative or friend was raised by men and women:

[*Participant*] You should just hire me to do the job for you, so that your wife can conceive. You are a failure. I can't fail; I will perform. I will just do it once for all.

[*Moderator*] What if the woman is fertile [and the husband infertile]?

[*Participant*] She will be conceiving by other people.

[*Participant*] The man won't be seen as a failure.

[*Participant*] Yeah, since they will have children.

Women reported:

If a woman is infertile, the man just marries another wife or he can go out and have sex with another woman and bear children. As for women, they have another sexual partner and get pregnant.

...They (the woman and man) sit down to talk and agree that they should bring another man in the house who can impregnate the woman. But this is taken as a secret. People should not know.

At times a man is not seen as infertile. It is found that a woman could be fertile. The woman secretly goes behind the man and conceives by someone else. So the husband says, I have a kid.

I have two kids but in a real sense, they are not his.

Most men bring up kids who are not theirs without their knowledge. Even some people might not know.

Treating Infertility

Participants mentioned seeking treatment for infertility; commonly this involved ingesting concoctions prepared by witch doctors or herbalists. In Mosiya, men also suggested the nongovernmental organization Banja La Mtsogolo and the government hospital as a places to receive treatment for “diseases contracted while young,” referring primarily to STI prevention. In contrast, the Lungwena men’s group said that their culture didn’t believe a hospital could help in this case, and that only traditional medicine could work.

When asked about ways to avoid infertility, the groups mentioned long-term faithfulness to one partner and the avoidance of promiscuity. Women also mentioned later marriage and the avoidance of alcohol.

Overall the common themes in the infertility discussions centered around failure to bear children, social pressure from family, relatives and friends, loss of status by childless adults, marital discord and frustration leading to separation or divorce, and self-initiated solutions such as assisted impregnation. Promiscuity, especially while young, and contracted STIs were cited as causes of infertility. A trigger of observed infertility is the visible absence of pregnancy for women and lack of children or long birth spacing for married men. Conception by a person other than one’s partner can happen covertly and often without any marital or social sanction. Assisted impregnation or extramarital conception also confirms one’s fertility.

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Appendix A

Waves 1 and 2 Supervisors and Research Assistants

Supervisors

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Antonio Kasote
Collen Kaluwa

Research Assistants

Women

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Chayandika
Lisungu
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Annie Chilongozi
Miriam Chinyama
Rosemary
Chiwaya
Thandiwe
Chiumia
Emily Gondwe
Thoko Hanjahaja
Matilda Kalungwe
Patricia Kamzati
M. Meke
Mary Msusa
Moiria
Nanthambwe
Mercy Ngalonde
Margaret Nkhoma
Chitsanzo Esther
Nkungula
Ella Phombeya
Luckmore
Phumisa
Siliana Sanga
Theresa Sungani

Men

Jones
Chimpukusu
Lucius Chipendo
Lusungu Chitete
Peter Dokali
Happy Kayuni
William Harawa
Macleod Mwale
Poya Njoka
Richard Phiri
Sautso Phiri
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Chipililo Matiga

Sampling Assistance

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Women

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Tapiwa Chunda
Lucy Chidothe

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Appendix B

Chronology of Measurement, Questionnaires, and Interventions

Wave 1 (June – November 2000)

Week 1	Household roster Baseline I, weekly fertility record
Week 2	Baseline II, weekly fertility record
Week 3	Followup, weekly fertility record, urine collection
Week 4	Followup, weekly fertility record
Week 5	Followup, weekly fertility record
Week 6	Followup, weekly fertility record

Wave 2 (January – February 2001)

Week 1	Household roster update Replication of some of baseline Weekly fertility record Supplementary urine collection STI counseling Distribution of vitamin C and antibiotics
Week 2	Follow-up, weekly fertility record Calendar history

Wave 3 (March – June 2002)

Week 1	Replication of some of baseline Weekly fertility record HIV pre-counseling Urine collection > 1 Month Distribution of vitamin C and antibiotics HIV counseling and referral Focus group discussions
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Appendix C

Focus Group Theme A: Attitudes Toward Pregnancy Avoidance In Malawi

Family Planning and Fertility

1. If you hear about family planning, what comes to your mind?
 - What do you know about family planning?
 - What does family planning mean to you?
2. I would now like to focus on pregnancy. When do you think a woman is most likely to become pregnant?
 - Probe: days in menstrual cycle, first time had sex, breastfeeding
 - When is a woman least likely to become pregnant?
 - Probe for situations

Method Use

3. What methods are used by both men and women in this community to avoid pregnancy?
 - Probe for both traditional and modern methods, and behavioral ways to avoid pregnancy, such as placing a child in the bed with the couple to avoid sex or going on a long trip to avoid sex.
 - How common is the use of such methods?
 - Which methods are the most popular in this community?
 - Why are these methods popular?
 - How did you learn about these methods of pregnancy avoidance?
 - Probe: formal sources – health workers, informal sources – family, friends
 - How do you know people use contraception?
 - Probe whether this information comes from discussions with others or perceptions of what others are doing, such as seeing a family with well-spaced children
4. What are some reasons why people in this community use methods to avoid pregnancy?
 - What are the benefits of avoiding pregnancy?
 - Probe: modern and traditional methods
 - Why do people still use “non-effective traditional methods?”
 - Why do you think some people in the community may not use methods to avoid pregnancy?
 - What are the disadvantages of using methods to avoid pregnancy?

Couples and Pregnancy Avoidance

5. When a couple is deciding to have a child, **who makes the decision** on how many children to have?

- What makes this person the decision-maker?

6. If a couple decides to try to avoid a pregnancy, **whose responsibility** is it to use contraception?

- What are the reasons why it is this person's responsibility?

7. Some women reveal to their partners that they are using contraceptives and some do not. How common is it for women in this community to **conceal their contraceptive use**?

- What are some reasons why they may conceal this use?
- Among the women who conceal their contraceptive use, what methods do they use?
- How do they conceal that they are using a method?
- What are the potential consequences if the partner finds out?

Condom Use

8. How common is the use of condoms in this community?

- What are the reasons for its popularity or unpopularity?

9. How is the issue of condom use handled by men in this community?

- What would be the reaction of married men if their wives proposed using condoms?
- Probe for acceptability of condom use in various contexts: breastfeeding, post-menopause, infertility in general

10. How is the issue of condom use handled by women in this community?

- What would be the reaction of married women if their husbands proposed using condoms?
- Probe for acceptability of condom use in various contexts: breastfeeding, post-menopause, infertility in general

11. What are the benefits of condom use above other methods of contraception?

- Probe: dual protection (prevention of pregnancy and STI), side effects of other methods, cost

Family Planning Services

12. What do you think a good family planning service should provide?

- Probe: cost, range of services, access, provider attitudes, integration of services
- How could the family planning services in this community be improved?

Focus Group Theme B: Attitudes Toward Breastfeeding and HIV Risk in Malawi

1. We know that most women in communities in Malawi breastfeed. What are some of the circumstances that may prevent some women from breastfeeding?
2. During our stay in your community, we observed some women breastfeeding children that were not their own. What are some of the reasons why this may occur?
 - Probe: How often does this happen? For how long? Who are the “nursing mothers?”
3. For women who choose not to breastfeed, what other feeding options are available to them?
 - For each option mentioned: How appropriate are these in this community?
 - Probe: costs, availability, appropriateness in this community
 - Another alternative is for a baby of an HIV positive mother to be breastfed by a non-HIV infected nursing mother. Is this a practice that could be promoted in your community?
4. HIV can be transmitted from mother to child. When do you think this happens?
 - Do you think a baby can become infected during pregnancy?
 - During labor?
 - During breastfeeding?
5. How can this transmission be prevented?
 - One way to reduce risk of transmission is to only breastfeed (no water, no other foods) during the first 4-6 months. Is this a behavior that women in the community are likely to practice?
 - And what may be some of the difficulties that they may encounter trying to do this?
 - One way to prevent transmission of HIV during the breastfeeding period is not to initiate breastfeeding of the newborn. Tell me what the community attitude is likely to be towards a woman who is not breastfeeding her newborn.
 - What can be done so that the community does not stigmatize women who choose not to breastfeed?
6. For a woman to take action to prevent transmitting HIV to her newborn, she must know her HIV status. How would a pregnant woman know her HIV status? (If VCT is not mentioned, tell them about VCT.)
 - What are some of the difficulties that she may face when deciding to learn her status?
 - What are some of the difficulties that she may face after knowing her status?
 - If not mentioned, ask about community, family, or male partner support and attitudes towards pregnant women being tested for HIV.
7. What can be done in your community to encourage pregnant women to go for HIV testing?
 - What could be done to make the community, relatives, and male partners of pregnant women be more supportive of HIV-infected pregnant women?

Focus Group Theme C: Attitudes Toward Infertility in Malawi

1. Let us start by thinking about family sizes in this community. What is the ideal family size in this community? Why is this the ideal number of children? What is the ideal space between births? Why is this the ideal space?

- Probe: child replacement, security, community expectations

2. What are the attitudes towards couples without any children? What are the attitudes towards couples with only one or two children?

3. Does it happen in this community that some couples have a difficult time getting pregnant? If so, why do you think some couples experience this difficulty?

4. In your view, are there any behaviors that put couples at risk of having a difficult time getting pregnant? What are they?

- Probe: sexual behavior

5. Do both men and women face the risk of infertility? Of these risks, which ones affect men? Of these risks, which ones affect women?

6. What is life like for a woman that cannot bear the number of children that she and her partner desire? How will her partner treat her? How will her relatives treat her? How does a woman with no children fit into the community?

- Probe: woman not in a union

7. What is life like for a man that cannot impregnate his partner? How will his partner treat him? How will his relatives treat him?

8. Does a difficulty in having children affect the relationship between a couple?

- Probe: stress, strain on marriage/relationship, resentment

9. What do couples do when they have tried for a long time to have a child and have not been able to? Who decides what should be done? Who influences the decision that is made?

- Probe: divorce/separate, child fostering, take another wife, try to have a child with another person

10. Is there anything that men and/or women can do to treat fertility problems? If yes, what can they do? Where do they seek treatment? Are there any traditional practices that can be used to treat problems with fertility?

- Probe: customs, folk practices

11. What types of things can men and women do to avoid having fertility problems?

STIs – Local Names and Symptoms

1. Let us start by thinking about health associated with sexual activity. What are the diseases that may be passed on through sex?

- Probe: local names for STIs, such as chitayo, buboes
- If STIs that are not in questionnaire are brought up:
 - a. How common are these diseases in this community?
 - b. How did they learn of these diseases?
- Probe: If HIV/AIDS not mentioned, are they aware of HIV/AIDS?
 - a. How is it transmitted?
 - b. Are there other ways besides sex?

HIV Transmission

2. Who is most likely to become infected with HIV?

- Probe: men, women, CSW, young girls, young boys, occupation, timing, people with multiple partners
- Probe: sexual negotiation between partners:
 - a. Who has the upperhand in initiation of sex, condom use, preventive behaviors?
 - b. Sugar daddies, sugar mommies
 - c. Violence in sexual negotiation: rape, marital rape
- Probe: Is there a higher risk of transmission for someone having sex for the first time (virgins)?
- Probe: Do these things we have talked about for HIV also apply to other STIs?

HIV Avoidance

3. What are people in this community doing to avoid getting HIV?

- Probe: change of behaviors, change of attitudes, condom use, number of partners, enforcement of marriage tradition, cultural practices that are being changed, initiation rites, traditional beliefs that are being changed or enforced, circumcision, scraping of vagina for yeast infections, fisi ceremony, ear piercing, local injections
- What are married people doing to avoid HIV?
 - a. Who has the responsibility for doing something to avoid HIV?
 - b. Why is this person responsible?
- What are unmarried people doing to avoid HIV?
- Why do you think some people may be doing something to avoid HIV?
 - a. Probe: attitudes to HIV, access to services, community attitudes

- b. Are they able to use the avoidance behaviors consistently (every time)?
- Why do you think some people are not doing anything to avoid HIV?

Community Roles in Prevention of Transmission

4. What are some of the cultural elements in the community that facilitate the transmission of HIV/AIDS?
5. What are community attitudes that encourage people to prevent HIV/AIDS?
 - Probe: attitudes towards discussion of sex, female roles
 - Are there any community attitudes that may prevent people from doing something to prevent HIV?
6. What are the attitudes of this community towards people with HIV/AIDS?
 - Do you think the attitude of people in your community towards HIV/AIDS has changed at all over the past few years?
 - How has it changed?
 - How could people's attitudes towards HIV and people with HIV change?
7. How do you think community members could help others in their community avoid getting HIV/AIDS?
 - Probe: What can families do? Religious leaders? Community group leaders?

HIV Services

8. What HIV/AIDS related services do you have in this community?
 - What do these services offer?
 - Information, testing, care for person living with AIDS, food security, orphan care, household income generation activities, planning for future, home-based care
9. What kind of information would you like to receive on HIV and STIs?
 - What would be the best way to receive this information?
 - Probe: health workers at home, clinic, leaflets, other media
10. What are the benefits of knowing your HIV status?
 - What are some of the challenges that come from knowing your HIV status?
 - Probe: disclosure and its effects
 - If a woman knew her HIV status, who are the people she is likely to discuss it with?
 - Probe: if husband not mentioned, why not husband?
 - If a man knows his HIV status, who are the people he is likely to discuss it with?
 - Probe: if wife is not mentioned, why not wife?